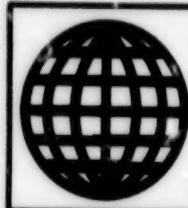


JPRS-TND-93-031
8 October 1993



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JPRS Report—

**Proliferation
Issues**

PROLIFERATION ISSUES

JPBS-TND-93-031

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8 October 1993

[This report contains foreign media information on issues related to worldwide proliferation and transfer activities in nuclear, chemical, and biological weapons, including delivery systems and the transfer of weapons-relevant technologies.]

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Qian Qichen Addresses UN, Discusses Nuclear Weapons

*OW2909183493 Beijing XINHUA in English
1813 GMT 29 Sep 93*

[Text] The United Nations, September 29 (XINHUA)—Chinese Vice-Premier Qian Qichen today reaffirmed China's stance of nonproliferation of all weapons of mass destruction, saying that "the ultimate objective of mankind should be the complete prohibition and thorough destruction of those weapons."

Speaking at the 48th session of the U.N. General Assembly, Qian Qichen, who is also foreign minister, said the Chinese Government has always stood for a total nuclear test ban within the framework of the complete prohibition and thorough destruction of nuclear weapons.

"We support an early start of negotiations for a comprehensive nuclear test ban treaty and will work in common with the other countries towards a comprehensive nuclear test ban at an early date," Qian said.

He stressed that China has always exercised great restraint in nuclear testing and "the number of our tests is the smallest among all nuclear powers."

Qian suggested that nuclear powers reach an agreement "not to be the first to use nuclear weapons as well as not to use the same against non-nuclear-weapon states or nuclear-free zones," if complete prohibition and thorough destruction of nuclear weapons cannot be achieved soon enough.

"This is entirely feasible and should be done as soon as possible," he said, because "this will put nuclear powers to the test to see whether they are willing genuinely to treat non-nuclear-weapon states as equals."

He said that China has long since unilaterally undertaken not to be the first to use nuclear weapons at any time or under any circumstances, and not to use or threaten to use them against any nuclear-free zone or non-nuclear-weapon state.

"We call upon all the other nuclear powers to make the same pledge and conclude an international convention to this effect as soon as possible," he said.

Qian also spoke of the international arrangements and conventions that are designed to control arms transfers and ban certain types of weapons of mass destruction.

He said that the arrangements designed to control transfers of missile and its technology should also take into account such elements as the arbitrary use of missiles for attacks on other countries.

Otherwise, he said, such an arrangement will become a means by which certain powers can maintain military superiority or play power politics.

Qian spoke out China's opposition to "all too frequent arbitrary use of sanctions by one country to bring pressure to bear on another under the pretext of controlling arms transfers while engaging in massive arms sales of one's own which jeopardize the sovereignty and security of the country concerned."

Foreign Ministry Reaffirms Support for Nuclear Testing Ban

*HK2009052693 Hong Kong AFP in English
0516 GMT 20 Sep 93*

[Text] Beijing, Sept 20 (AFP)—China on Monday reaffirmed its support for "a complete prohibition of nuclear testing" and added that it had observed a "moratorium exceeding more than a year."

The statement, made public by China's Foreign Ministry, follows accusations by U.S. President Bill Clinton that Beijing is preparing for an underground atomic test in the Lop Nor desert in western China. Clinton, who declared in July a 15-month moratorium on nuclear testing, urged China on Friday to drop the test plans.

Without confirming or denying whether it would conduct the test, a foreign ministry spokesman said: It is known to all that China has all along exercised great restraint of nuclear testing. "China has always supported complete prohibition and thorough destruction of nuclear weapons." Emphasizing that the number of tests conducted by China "is the smallest among the nuclear states," the spokesman added: "In fact, we have had a moratorium exceeding more than one year many times."

If the underground test is conducted, it would be the world's first in more than a year.

France, Russia, and Britain have pledged to stop nuclear testing. China agreed to take part in talks to be held in January in Geneva on banning atomic testing but has so far refused to state its stand on a halt.

Beijing Remains 'Tight-Lipped' on Nuclear Test

*OW3009111793 Tokyo KYODO in English
1059 GMT 30 Sep 93*

[Text] Beijing, Sept. 30 KYODO—A Chinese Foreign Ministry spokesman remained tight-lipped Thursday [30 September] over accusations that China will soon conduct a nuclear test, but added that China is willing to consider proposals for a comprehensive nuclear test ban treaty.

"We always exercise the utmost restraint as regards nuclear tests," Wu Jianmin told reporters at his weekly press briefing. "China has conducted the smallest number of nuclear tests among all other nuclear states," he said.

"We always stand for a comprehensive nuclear test ban within the framework of a comprehensive prohibition and thorough destruction of all nuclear weapons," he added.

Wu's statement came days after U.S. President Bill Clinton, in a United Nations speech, appealed to all nations to heed an international moratorium on the testing of nuclear weapons.

U.S. intelligence reports have recently indicated that China is on the verge of setting off a new underground nuclear explosion.

Wu refused to confirm or deny the reports.

Clinton's Monday speech also included an initiative to cease the production of nuclear materials for nuclear weapons and have such materials placed under international inspection.

Such an initiative, if agreed to, would theoretically place the five declared nuclear powers—Britain, China, France, Russia, and the United States—under obligation to accept international inspections.

"China...is also preparing to conduct comprehensive studies on the positions and specific proposals that have been put forward by the parties concerned," Wu said, apparently responding to Clinton's U.N. proposal.

'Successful' Use of Peaceful Nuclear Technology Noted

*OW2709082193 Beijing XINHUA in English
0743 GMT 27 Sep 93*

[Article by Li Zhurun and Han Zhenjun]

[Text] Beijing, September 27 (XINHUA)—Chinese scientists have built a 50,000-kilowatt nuclear reactor for an experimental urban heating center and are working on one of 200,000 kilowatts for the same purpose.

This is part of a national program to reduce air pollution in cities. Officials at China National Nuclear Corporation (CNNC) said this is one of the latest steps to implement China's policy of using nuclear technology for peaceful purposes.

The nuclear industry, headed by CNNC with 300,000 scientists and engineers, was geared to serving the needs of economic construction when China adopted the policy of reform and opening to the world in the early 1980s.

Nuclear technology is now used in energy development, industry, agriculture, medicine, geological prospecting, and mining. The focus of attention is the development of nuclear electric power.

The 300,000 kilowatt Qinshan Nuclear Power Plant in Zhejiang Province, now on full-capacity trial operation, is generating 150 million kilowatt hours of electricity per month. "Everything has gone without a hitch since the station started generating in December 1991," said Yu Deliang, CNNC's spokesman.

The Daya Bay Nuclear Power Station, with two 900,000 kilowatt generator units, is to go into commercial production at the end of 1993. Qinshan and Daya Bay

respectively supply east China and Guangdong, highly industrialized but with acute shortages of energy.

China is producing 800 radio isotopes and isotopic products used in industry, agriculture, medicine, pharmaceutical, and other fields. The China institute of nuclear sciences accounted for 70 percent of these.

An annual average of 30 million patients receives help from 1,200 Chinese hospitals with nuclear medicine departments. "Nuclear medicine has become an independent branch of science in China since we produced China's first 33 isotopes in 1958," said Sun Zuxun, president of the institute.

According to Sun, China is even better known for having developed 383 new crop varieties through irradiation-induced mutation, a third of all such varieties developed so far throughout the world.

These crop varieties are sown on 8.67 million hectares across China, bringing an additional harvest of 4.5 million tons of grain and 200,000 tons of cotton every year, Sun added.

The country has 15 centers and five factories which, fitted with 150 cobalt-60 irradiation machines, specialize in developing high-tech materials including polymer materials, high quality single crystal silicon bars, as well as materials which, in contrast to conventional materials, contract with heat.

These facilities also produce highly sterilized disposable medical apparatus and means to preserve food and other easily perishable goods, Sun said.

Moreover, some 10,000 nuclear meters and instruments are being used in prospecting for coal and other minerals, oil well testing, non-destructive examination of industrial products and materials, electrostatic elimination in the textile industry, and analysis of trace elements.

U.S. Claim About Underground Nuclear Testing Refuted

*OW2709133793 Moscow Radio Moscow in Mandarin
1000 GMT 27 Sep 93*

[From the "News" program]

[Text] In a brief statement released today [27 September] the Chinese Ministry of Foreign Affairs refuted [bo chi] the U.S. claim that China is preparing for a nuclear test.

It pointed out that China follows a policy of restraint on the issue of nuclear testing.

The U.S. State Department had stated earlier that, according to U.S. intelligence, China planned to conduct an underground nuclear test during the first week of October.

INDONESIA

Official Confirms Construction of Nuclear Power Plant

BK2009104393 Jakarta TEMPO in Indonesian
11 Sep 93 p 97

[Excerpts] The presence of a nuclear power plant in the Muria Peninsula, Central Java, has been confirmed and the announcement for its construction was made by Jali Ahimsa, director general of the National Atomic Energy Agency on Tuesday last week. The tender for the construction of the country's first nuclear plant will be announced in 1995. This means that Indonesia will have a nuclear plant by 2003 at the latest.

"This is the final decision", said Jali Ahimsa. The sophisticated power plant is expected to require an investment of about U.S. \$10 billion or 20 trillion rupiah and will produce 1,200 megawatts of electricity.

It must be admitted that Ahimsa's statement is not only surprising but has also aroused curiosity, especially among those concerned over the construction of the plant. Doubts have been raised as to why the government has persistently wanted to build a nuclear plant despite the abundance of coal and natural gas resources. The problem is that while the nuclear plant will bring benefits, it might also cause disasters.

The nuclear plant will certainly be equipped with multiple safety systems. However, several leakage cases that occurred at the Three Mile Island plant in the United States and Chernobyl plant in Ukraine have intensified people's fears. "There are still other alternatives. Why has the government been so persistent in its plan to build a nuclear plant?" a source at the State Electricity Agency said. [passage omitted]

While public concern over the safety of the Muria plant is not surprising, some people, including Markus Wauran, a member of parliament's Commission X [Roman numeral ten] seem to have different ideas. He said the parliament had given its approval for the construction since 1988. "With the growth of electricity demand at 15 percent annually, it is high time for us to have a nuclear plant," Markus said. [passage omitted]

Even though the project appears to be proceeding smoothly up to now, the State Electricity Agency has not given its support. Artono Munandar, director general of electricity and energy development, even described as premature Ahimsa's statement that the tender for the construction will begin in 1995. "The feasibility study will be completed in November. Therefore, we still cannot decide now," said Artono, who is also chairman of the feasibility study team for the Muria plant.

JAPAN

Tokyo To Propose International Control of Plutonium

OW2409065393 Tokyo KYODO in English
0639 GMT 24 Sep 93

[Text] Tokyo, Sept. 24 KYODO—The Science and Technology Agency decided Friday [24 September] to propose to the world a plan to put plutonium, one of the most toxic materials known, under international control, agency officials said.

Agency Chief Satsuki Eda will advance the proposal at the General Assembly of the International Atomic Energy Agency (IAEA) to be held from Monday in Vienna, they said.

Under the program, all countries, including nuclear powers, would have to register all stock of plutonium and highly enriched uranium except those for military purposes and reveal their plans for using the stocks, the officials said.

Plutonium and highly enriched uranium are used to produce nuclear weapons.

If a nation has no plan to use the stocks in a certain period, the nuclear substances must be reported as a "surplus" and be stored in a special facility to be designated under the program, the officials said.

Nations to join the program would form a committee to supervise the use of the nuclear substances and to regularly make information public, they said.

The registered nuclear substances should preferably be inspected by the IAEA, but such an inspection would not be conditional under the program because nonnuclear powers are not obliged to accept such inspections, they said.

The IAEA has also been considering some form of international control of plutonium and highly enriched uranium and the United States is expected to mention such a project in announcing its new policy on nuclear nonproliferation soon.

Japan's plan is expected to differ from those of the IAEA and the U.S. on the obligation of nations to reveal the use of the nuclear substances, the officials said.

Japan has decided to allow greater transparency in its plutonium management to win international understanding of its plans to promote power generation using plutonium.

During the 134-day round trip of the Akatsuki Maru freighter to carry reprocessed plutonium from France to Japan that ended in early January, over 40 countries voiced concern about the ship passing through their territorial waters.

Japan also came under fire for its alleged reluctance to agree to an indefinite extension of the Nuclear Nonproliferation Treaty.

Tokyo Welcomes Clinton's Statement on Nuclear Treaty

*OW2809074293 Tokyo KYODO in English
0715 GMT 28 Sep 93*

[Text] Tokyo, Sept. 28 KYODO—Japan on Tuesday [28 September] welcomed an announcement by U.S. President Bill Clinton at the United Nations on U.S. policy on nuclear nonproliferation.

In a statement, the Foreign Ministry called the U.S. policy announcement "timely and appropriate in that it clarifies its posture to tackle comprehensively the non-proliferation issues from a broad viewpoint."

These ranged from the disarmament issue to the peaceful uses of nuclear energy and export control, it said.

Japan particularly welcomes the fact that the United States has "clarified its intention to put its own surplus of highly enriched uranium and plutonium under the safeguard measures of the International Atomic Energy Agency," the statement said.

It also appreciates a proposal to hold a multilateral convention to prohibit the production of highly enriched uranium and the separation of plutonium for use in nuclear weapons or outside the framework of international safeguards.

Tokyo also praised Washington's reaffirmation that it will maintain its existing commitments regarding the use of plutonium in civil nuclear programs in western Europe and Japan.

Such action "implies that the United States pays ample consideration to the countries including Japan which are closely connected with it in nuclear power cooperation," the statement said.

Japan wants to continue to cope with disarmament and nonproliferation while closely cooperating with the U.S. and other nations, it said.

THAILAND**'No Evidence' Alleged for U.S. Claims on Workers in Libya**

*BK0110025393 Bangkok THE NATION in English
1 Oct 93 p 2*

[Text] The United States has stopped pressuring the government to pull Thai workers out of Libya, where Washington claimed they were working in chemical weapons factories, according to a government source.

The source said the U.S. has produced no evidence to back its claims that about 200 Thais were working in chemical weapons factories.

Libya is subject to United Nations sanctions on arms, aviation, and diplomacy imposed at the request of the U.S., which is demanding that Tripoli hand over two

men alleged to have masterminded the bombing of a fully-laden Pan Am 747 passenger plane over Lockerbie, Scotland, in 1988.

U.S. diplomats have several times tried to influence senior officials, including Interior Minister Chawalit Yongchayut, to withdraw Thais allegedly working in the chemical factories.

The government had not responded for fear that Tripoli would hold other Thai workers hostage, and that it could affect future Thai-Libyan relations, the source said.

The source said the government had no means of investigating the U.S. claim and the U.S. had produced no evidence.

The UN is expected to impose additional sanctions on Libya soon, extending the bans to include petroleum products and financial dealings.

This could affect the employment of Thais and other foreign workers. About 95 percent of Libya's income is generated by petroleum products and the government may be forced to stop construction projects.

An estimated 25,000 Thais work in Libya, mostly on construction sites, the second largest group of foreign nationals.

Egypt tops the list with about 1 million, followed by Thailand, Poland (about 2,000), and Vietnam (1,000).

Foreign Ministry spokesman Sakthip Krairiksh said yesterday an evacuation plan had been prepared for Thai nationals in Libya in the event the U.S. decides to launch an air strike.

The Thai embassy in Rome had received confirmation of assistance from the Italian and Maltese embassies in Tripoli should hostilities break out.

However, the foreign ministries of England and France had given assurances that neither they nor the U.S. were planning violent action against Libya.

VIETNAM**Army Role in Uranium Smuggling Probed**

*BK0410161893 Hong Kong AFP in English
1210 GMT 4 Oct 93*

[Text] Hanoi, Oct 4 (AFP)—The Vietnamese authorities, probing a case of uranium smuggling, are focusing on army units guarding munition depots, including dumps left behind by the U.S. forces in 1975, a source at the National Institute of Atomic Energy here said Monday.

The affair came to light last month, when Hanoi seized 20 kilos (44 pounds) of uranium and arrested three smugglers and a policeman accused of complicity.

The investigators are in particular investigating units in charge of chemical warfare in southern Vietnam's military districts, the source said, speaking on condition of anonymity.

The units were in charge of uranium for military laboratories, as well as munition depots relinquished by American forces, he said.

After the fall of the U.S.-backed South Vietnamese government in April 1975, American munition depots fell into the hands of communist North Vietnamese troops. These depots, including a major complex at Long Binh, are currently under the control of Military Region No. 7, based in Ho Chi Minh City.

Vietnam does not produce uranium itself.

"The poor management of munitions depots by certain army units is the main cause of the flight of uranium to the outside," the source said. But he added he believed the quantities of uranium stolen were small and that the material was of low radioactivity.

"It wouldn't have great commercial or industrial value," the source said, while denouncing speculators who were taking advantage of the situation to make money.

According to him, uranium had by chance been found in scrapyards on several occasions, but he declined to reveal how much uranium had been seized by the Vietnamese government up until now.

The recent seizure of uranium in Hanoi was the first case reported in the official Vietnamese press.

A Cambodian source in Phnom Penh said the illegal traffic of Vietnamese uranium to Thailand through Cambodia was extremely lucrative, with each delivery fetching up to 30,000 dollars.

The Vietnamese government decided last year to set up a special working committee to recover and deal with uranium currently circulating in the local markets—a potential health hazard—and report its findings.

The government investigation will also cover the health and civil aviation ministries, which the National Institute of Atomic Energy source said used uranium for hundreds of scientific and technical uses.

The Vietnamese press regularly reports on the theft and traffic of arms—including pistols, grenades and machine guns—in which soldiers trying to supplement their earnings are believed to be involved.

CROATIA

Krajina Serbs Claim To Have Seized 'Chemical Mines'

AU0410154293 Belgrade Radio Beograd Network in Serbo-Croatian 1400 GMT 4 Oct 93

[Text] The General Staff of the Serbian Army of Krajina has issued a report that during the most recent fighting in Kordun, members of the anti-terrorist unit of the Serbian Army of Krajina captured from a group of Croat saboteurs chemical mines [hemijaska mina] and toxic smoke boxes [otrovna dimna kutija].

It has been established that these were chemical agents of Belgian production and that these are used for temporary incapacitation. A more thorough chemical analysis is under way. It is obvious, as claimed in Knin, that the Croatian Army intends to use chemical agents in new aggression.

CZECH REPUBLIC

Sensitive Poison Gas Detector Used in Gulf War

LD2809092893 Prague CTK in English 0908 GMT 28 Sep 93

[Text] Prague, Sept 28 (CTK)—The Czech anti-chemical unit which operated in the Persian Gulf war in 1991 was equipped with a top secret detector, an army source told today's issue of left-oriented daily "RUDE PRAVO".

Detehit is almost one hundred times more sensitive than the devices used by NATO. This property made it possible to measure the trace elements of the poisonous gas used and to raise the chemical alarm. Thus the device was tested for the first time in real combat conditions.

The Czech-made Detehit is cheaper—the exact price was not given—than a less sensitive Canadian device which costs 50 USD.

It tests the presence of nerve gases in water, food, earth surface, equipment, and outfit.

Detehit has been declassified and it is among the armament of Czech Army's chemical unit, the paper writes.

POLAND

Nuclear Smuggling in Port Cities Reported

93EP02264 Warsaw ZYCIE WARSZAWY in Polish 12 Aug 93 p 5

[Article by Roman Daszczynski: "Uranium Tricities: Is Radioactive Trade Blossoming on the Coast?"]

[Text] At the beginning of March 1993, in the apartment of Aleksander O., a retired worker, in Gdynia, a container of uranium—a so-called flaw detector, and samples

The goods had initially been checked by an anonymous expert, who immediately left the apartment in order to bring the customer, as he said. Two minutes later, agents of the Office of State Protection entered the apartment. Three men were arrested. Ryszard H. and Jerzy F. (a retired major of the Security Service) say that they knew nothing about the trade in uranium. Aleksander O., on the contrary. He says that Jerzy F. offered him a percentage for finding him a buyer.

The investigation showed that Jerzy F. and Ryszard H. were friends of a K., a former KGB officer, currently a businessman from Klaipeda. One of the witnesses in the case says that he met K. through Jerzy F. and that K. offered "large quantities of uranium, red mercury, osmium, and plutonium." During a search of the apartments of Jerzy F. and Ryszard H., correspondence in Russian, confirming indirectly that they were dealing in strategic materials, among other things, was found.

Illegal trade in radioactive substances is considered a misdemeanor in Poland. There is criminal responsibility for "causing general danger to life or health." On that basis, the charges against Ryszard H., Jerzy F., and Aleksander O. were drawn.

"I do not know how much it was to be sold for, but F. showed me documents in Russian that showed that the Russian wanted \$150,000 for the goods. I told him that there are specialized firms that deal with those things at the request of the U.S. special services and that I know such a firm," Aleksander O. told the prosecutor. He added that Americans buy radioactive substances to keep them from falling into the wrong hands.

Next, according to his own story, Aleksander O. contacted W., the owner of the Sopot firm B. Two days later, the telephone rang. W. told him that he had found a customer in Germany.

"Acting on behalf of the Sopot firm, and actually of its head, I sought suppliers of other materials and goods such as airplanes, helicopters, and scandium," says Aleksander O.

Testifying as a witness, W. skillfully belittled O.'s revelations. "There was an offer of civilian and transport helicopters, but I did not conclude a contract because the proposals were not very credible. At the beginning of the year, I gave Aleksander O. authorization to prepare initial documents on the purchase of inactive osmium 187 from the Russian Government agency authorized to deal in it. The initial price was set at approximately \$50,000 per gram, but I was more interested in checking the market than in concluding a transaction," W. told the prosecutor.

He also said that Aleksander O. offered him "sales of equipment of a so-called flaw detector for the storage of rare earth metals—for example, lithium." W. admitted that he agreed to find a customer and that he talked by telephone with Aleksander O. from the German firm IVL about

According to the materials of the official notes of the Office of State Protection attached to the case, IVI Finance Management, Inc., of Panama has officer in Paris and Luxembourg. The head of the firm is the German citizen Leinhauser, known as a arms dealer. Alojz Strzelczyk, a German citizen, cooperates closely with IVI and visits Polish dealers, who offer strategic materials for sale to Germany in Leinhauser's name and attempts to conclude contracts. According to unofficial information, there are a dozen or so firms in the Tricity area that serve as intermediaries chiefly in radioactive materials.

However, no one from the Gdansk Office of State Protection wanted to even comment on the information revealed in the papers of the "uranium case."

Unofficially, we were told by one of the employees of the Office of State Protection: "We are chiefly interested in having the greatest possible control of this type of transaction. Usually, samples reach Poland. The actual

shipment goes from Klaipeda straight to Germany; thus, it in no way harms us. Have no illusions; the U.S. special services will not intervene if it does not threaten their interests."

YUGOSLAVIA

Macedonia Accepted Into International Atomic Energy Agency

AU3009091493 Skopje MILS-NEWS in English
29 Sep 93

[Unattributed report: "Macedonia—A New Member of the Atomic Energy Agency"]

[Text] Following the recommendation of the Governors Board, the General Conference of the International Atomic Energy Agency, the Republic of Macedonia was unanimously admitted to this U.N. International Agency on 27 September 1993.

ARGENTINA**Nuclear Agency Reports on Plants' Increased Efficiency**

PY2109042293 Buenos Aires NOTICIAS ARGENTINAS in Spanish 1838 GMT 18 Sep 93

[Text] Buenos Aires, 18 Sep (NA)—The National Commission for Atomic Energy (CNEA) reported that so far this year nuclear power plants' efficiency has exceeded 100 percent and has the highest efficiency average compared with other energy sources.

The CNEA has control over only 7.4 percent of the total installed electric energy capacity but generated 15 percent of the electricity consumed in the country.

The two power plants have produced more energy than anticipated in their original design, the CNEA report says.

The Embalse power plant has been maintaining a 97.57 percent efficiency rate since last March, while Atucha-1 has maintained an efficiency rate of more than 98.44 percent since April. During the past quarter (June, July, August), Atucha-1 exceeded 100 percent efficiency.

According to the report, the Embalse and Atucha-1 power plants are at the top of the list of nuclear power plants.

REGIONAL AFFAIRS

India Deems Pakistani Statement on Test Ban Flawed

93WP0235A Madras *THE HINDU* in English
14 Jul 93 p 9

[Article by K.K. Katyal]

[Text] New Delhi, July 13—Pakistan's latest suggestion for a regional or bilateral nuclear test ban treaty is not acceptable to India—for the reasons conveyed to Islamabad years ago. That Pakistan should now have reiterated its plea, knowing India's stand full well, is considered odd, even propagandist.

India, according to officials here, does not see any use for or merit in a regional embargo when the nuclear powers, and also those on the threshold, are free to test and thus upgrade their weapon technologies. Pakistan was told about it as far back as 1978, when the suggestion was first made to India. Islamabad has mentioned this suggestion again, while welcoming the U.S. decision to extend its moratorium on nuclear testing until September 1994.

The Pakistani statement on the subject is clearly flawed. It recognizes the importance of a permanent ban on tests by all States and expresses the hope that multilateral negotiations will soon be initiated to conclude a comprehensive treaty, but when it comes to the operative follow-up, it pleads for a regional ban.

Pakistan, it is pointed out here, takes a similar narrow view of the wider issue of nuclear nonproliferation. While India stands for total elimination of nuclear weapons and is opposed to discriminatory arrangements of the type visualized in the Nuclear NonProliferation Treaty (NPT), Pakistan has not only accepted the U.S. proposal for limited or regional restraint, but also has been wanting India to accept it.

Some time ago, the Pakistan Prime Minister, Mr. Nawaz Sharif, presented as his own what was known to be an American plan—for a five-nation conference to work on a nuclear-free South Asia. India, as was known, rejected it on two grounds—one, the nuclear menace, global by its very nature, does not admit of regional treatment, and two, the U.S., Russia, and China, besides India and Pakistan, in the proposed conference, are not intended to be covered by the obligations, to be finalized for South Asia.

As on many other foreign policy issues, Pakistan sees the nuclear nonproliferation issue through the India prism. As it often says, it is prepared to accede to the NPT, provided India agrees, too.

Both India and Pakistan welcomed the U.S. decision on the extension of the test moratorium, but otherwise drew different conclusions, reflecting a wide gap in their perceptions. It was India's hope that the latest U.S. decision (including the priority proposed to be given to negotiations towards multilateral test ban treaty), along

with the U.S.-Russia agreement to cut down the quantum of strategic weapons, would open up new possibilities—of halting and reversing the nuclear arms race, with a view to achieving nuclear disarmament in the long term, and agreement by the "haves" in the medium term, on a universal freeze on the future development and deployment of nuclear weapons. Also it wanted them to work for an agreement to prohibit the use or threat of use of nuclear weapons.

Obsessed with India: Pakistan, on the other hand was obsessed with India. After hailing the U.S. decision, it recalled what it said in 1978 and expressed the hope that "its proposal for a regional or bilateral test ban treaty will now receive a positive response from India".

ALGERIA

Shortage of Scientists in Nuclear Sector

93AF0817Z Algiers *EL WATAN* in French
29 Jul 93 p 2

[Article: "Nuclear Sector: Threatened Shortage of Staff"]

[Text] The OECD countries must prepare for the next generation of skilled personnel in their nuclear sector if they do not want to be faced with a shortage at the turn of the century, according to a report by the Nuclear Energy Agency (NEA). The slowdown in orders for new power plants, the expected acceleration in personnel retirements, and the nuclear industry's poor image among students mean that the sector may be faced with a shortage of engineers and researchers.

The report emphasizes that "a shortage of highly specialized personnel could create serious problems in countries wanting to preserve the technological potential necessary for operating, maintaining, and building nuclear power plants and the related facilities concerned with the fuel cycle." The shutting down of numerous reactors that will have to be dismantled, the appearance of new reactors including the new generation of fast breeder reactors, and the problems with waste storage are all areas in which engineers and researchers will be needed, according to the report.

The report estimates, however, that "the number of skilled personnel will remain stable or increase slightly until 2005."

INDIA

Writer Sees Need To Retain Nuclear Capability

93WP0229A Madras *THE HINDU* in English
10 Jul 93 p 8

[Article by M.R. Srinivasan: "NPT and India's Case"]

[Text] Successive U.S. administrations have urged India and Pakistan to sign the Nuclear Nonproliferation Treaty (NPT). India has refused to sign the NPT as it is

discriminatory. Pakistan has maintained it is prepared to sign the NPT provided India did so. India's position is that elimination of nuclear weapons is a global problem and not a bilateral one or a regional one. India has been producing unsafeguarded plutonium from the mid-Sixties. A part of this has been used as fuel for the Fast Breeder Test Reactor at Kalpakkam. Plutonium used for the Pokharan test came from unsafeguarded facilities. So India has been having access to weapons usable material for a long time. During the eighties, Pakistan made determined efforts to build a uranium centrifuge enrichment plant at Kahuta. Pakistan received considerable clandestine supplies of sophisticated materials and equipment from a number of Western countries including Holland, Germany, Switzerland, United Kingdom and the U.S. The countries belong to the Nuclear Suppliers Group (NSG) and are, in theory, committed not to support nuclear weapons programs in other countries. Over the last few years, Western media reports have given an exaggerated picture of Pakistan's nuclear capability. This has served Pakistan's interests very well as the value of any nuclear weapon is largely psychological. U.S. intelligence reports have claimed that India and Pakistan were very close to a nuclear confrontation in 1990. The U.S. has even taken credit for having averted a nuclear war by its timely intervention! My discussion with highly placed persons in the Indian Government at the time have revealed that there was no truth whatever in the report that either Pakistan or India was on the point of deploying nuclear weapons against each other. This is one more case of an intelligence agency putting out a self-serving report!

Bilateral Talks

As an alternative to India and Pakistan signing the NPT, the U.S. has been urging India and Pakistan to hold bilateral discussions on the nuclear question and find a solution similar to the one that came about between Argentina and Brazil. India's position has been that apart from Pakistan, which may have a limited nuclear capability, it has to take note of the highly developed Chinese nuclear arsenal in recent times, the U.S. has backed a conference of five nations—India, Pakistan, the U.S., Russia and China. When the proposal was mooted, the Soviet Union was in existence. The intention presumably was that the U.S. and the USSR would take on the role of joint guarantors. China is reported to have taken the position that it would participate in such a conference only on condition that its own nuclear arsenal was not on the table for discussion. With Russia in its present state of disarray, it can hardly claim to be qualified for the role of a guarantor. Moreover there are more nuclear weapon powers in the region, for instance Kazakhstan, even if it is not so recognized by the NPT. If the region were extended to cover Asia-Pacific, there is Israel which has a nuclear arsenal. If Western reports are to be believed, North Korea has a plutonium production reactor and reprocessing facilities which have not been placed under IAEA safeguards. Some countries in the region which have signed the NPT can develop nuclear weapons in a fairly short time if they

so desire. Japan and South Korea are in this category. More generally around the world the list of such countries would include Germany, Canada, Italy, Sweden, Spain, and so forth. A worthwhile regional initiative would therefore have to include a large number of countries, some nuclear weapon States, some nuclear weapons capable States which have not signed the NPT and some States which have signed the NPT but can develop nuclear weapons fairly quickly.

Rajiv Gandhi Initiative

What are the elements of a convention or agreement that could be worked out globally or on a large region-wise basis? The Rajiv Gandhi initiative had foreseen a time-bound elimination of all nuclear weapons. While the eventual elimination of all nuclear weapons should be our ultimate aim, we have to be prepared for a much longer timetable than the one visualized in the Rajiv Gandhi initiative. In fact, U.S. defense planners do not visualize the elimination of all nuclear weapons in the foreseeable future. In this situation we should expect other nuclear weapon States and nuclear weapons capable States also to retain some weapons and the capability on an indefinite basis. There are still certain elements which can find agreement among most if not all countries even now. The first is a comprehensive and universal test ban. The second element is an agreement on "non-use" of nuclear weapons. Since use of nuclear weapons can be looked upon as a crime against humanity, this would be a logical position to take. Here again the U.S. itself had in the past opposed such an agreement. There is a possibility of an agreement on "non-first-use" which would therefore remove the possibility of a pre-emptive nuclear attack. The Americans have been suggesting a cut-off in the production of weapons usable material and claim that they have done so already. With some 10,000 nuclear warheads (which will be reduced to some 3,000 following the U.S.-USSR treaty in a time span of 10 years or so) in their possession, any addition to the stockpile is an acute embarrassment. However to ask India to stop production makes little sense as our stockpile of weapons material is quite modest. The other elements of the nuclear convention would be transfer of nuclear technology to be subject to peaceful use provisions under appropriate safeguards and a universal non-discriminatory inspection regime.

A most urgent problem is the effective control on nuclear weaponry of the former Soviet Union. While Russia has inherited the bulk, there are significant numbers in Ukraine and Kazakhstan and some in Belarus. It is not at all clear how tight the controls were on nuclear weapons before the break-up but the chaotic conditions of the last year are most worrisome. There are reports of clandestine sale of weapons of various kinds and there is the danger that ready-made nuclear weapons might leak out of one of these States for a good price. Instead of the U.S. building the scenario of a nuclear war in South East Asia and wasting a lot of effort on controlling it, it would be both prudent and necessary to look at the situation in the former Soviet Union. Even granted Pakistan and India

have had their historic differences and have gone to war on a number of occasions, the chances that they would use nuclear weapons against each other are negligible. It is the Western media and American commentators who keep harping on how close to a nuclear war we are in the sub-continent. India and Pakistan signed an agreement on non-attack of each other's nuclear facilities. Other confidence-building measures could be non-attack on large population centers and installations of high economic importance and also capping of military budgets.

Nationalism and Sub-Nationalism

Contrary to the feeling held in the recent past that there was movement towards the concept of "one world", we will be seeing in the years ahead a reassertion of nationalism and indeed of sub-nationalism. The Yugoslav situation has demonstrated how impotent the world is to impose peace in the tribal war. The Gulf War was an exception as oil vital to the West and Japan was at the heart of the dispute. Even the massive U.S. military intervention did not dislodge Mr Saddam Hussein, though Kuwait was liberated. In the uni-polar world dominated by the U.S., any intervention by the world body, i.e., U.N. will only be for causes that are vital to the U.S.

In such a situation, India cannot dismantle the nuclear capability it has built up over the last 40 years simply because the U.S. is urging it to do so. This capability is the result of the dedicated and selfless work of a large number of scientists, engineers and technicians of the country. Our politicians and diplomats must not barter away this strength in exchange for useless bits of paper. The country must sustain our nuclear capability, including that in the field of nuclear power, and also similarly nurture other high technologies such as space and rockets, electronics, special materials, etc. The lesson we can learn from our nuclear energy and space programs is the vital importance of developing self-reliance in these sensitive technologies. In the present euphoria about liberalization and globalization, we may overlook the importance of self-reliance. If this were to happen, the country will pay a heavy price later. Moreover, there are new developments in science and technology all the time and some of them can transform military weaponry drastically leading to greater accuracy, higher destructive capability and lower cost. Our science and technology must keep pace with such developments if our national security is to be adequately safeguarded. We cannot accept an abridgement of our sovereign right to pursue these new scientific and technological developments.

Entry Into Space Technology Market Possible

93WP0232A Bombay THE TIMES OF INDIA
in English 20 Jul 93 p II

[Text] New Delhi, Jul 19 (PTI): Despite Russia renegeing on the cryogenic engine deal, India can pursue its goal to offer launch services to other countries and enter the space technology market, space department sources say.

With existing capabilities, India can launch small communications satellites using the already-proven Augmented Satellite Launch Vehicle (ASLV) and the Polar Satellite Launch Vehicle (PSLV) which is scheduled to fly in a few months.

The Indian space research organization says the U.S. pressure on Russia not to complete delivery on the cryogenic engine technology was driven by commercial motivations.

With the cryogenic engine technology, India hoped to acquire by 1996 the capability to launch geostationary satellites on its own, end dependence on foreign launches, and offer launches to other countries on a commercial basis.

But even without the Geostationary Launch Vehicle (GSLV), ISRO sources say, it should be possible to get at least nine PSLV launches of smaller communications satellites worth at least \$100 million between 1996 and 2000.

At least 50 launches of small telecommunications satellites are anticipated worldwide during the 1996-2000 period. ISRO could earn about \$25 million by the mid-nineties and another \$100 million by 2000.

The Russian refusal to continue with the transfer of the cryogenic engine technology might delay the GSLV program which will provide India the capacity to put INSAT-class satellites into orbit.

Until the GSLV is operational, India cannot offer launches of medium and large communications satellites. But ISRO sources say the Sriharikota Island launch facility itself offers a "major business opportunity."

Sriharikota has an advantageous location close to the Equator and a launch from there offers substantial gains in terms of payload mass in geostationary orbit.

The European Ariane space and American launch companies are unlikely to be interested. But China, Japan, and the Soviet Union might find Sriharikota attractive because they have problems in getting optimum performance from their own launch sites.

ISRO sources say India is already in a position to offer medium-sized communications satellites, remote sensing software and hardware, and spacecraft components proven through the Indian space program.

Madras: Space commission member and Director of the National Aerospace Laboratories (NAL), Prof. R. Narasimha, has asserted that India can develop the technology to make cryogenic rocket engines within two years.

The consideration is no more whether it can be done, but that the right resources should be there, he told a team of reporters who visited NAL, on the outskirts of Bangalore.

Mixed Uranium Plutonium Fuel Developed

*93WP0233A Bombay THE TIMES OF INDIA
in English 30 Jul 93 p 8*

[Text] New Delhi, July 29 (UNI)—India has developed a mixed uranium plutonium (MOX) fuel technology which could help operate the Tarapur atomic power station in the event of the French government's stoppage of low enriched uranium supply after the expiration of the contract later this year.

In the absence of low enriched uranium, the atomic power station could be operated by the MOX fuel for which the technology has been developed indigenously, the minister of state in the Prime Minister's office, Mr. Bhuvanesh Chaturvedi, said in a written reply in the Rajya Sabha today.

He said it was also possible to run the Tarapur atomic power station by using indigenously produced low-enriched uranium.

The minister said France had already supplied all fuel under the 1983 contract for the station. As for future supply, the French government had indicated that it would be on the condition of India accepting full scope International Atomic Energy Agency safeguards.

On the recent fire in the Narora plant, the minister said there were two inquiry committees to investigate the fire—one set up by the Nuclear Power Corporation and the other by the atomic energy regulatory board. They have both identified the cause of fire as turbine blade failure.

Rocket Developed To Carry Largest Payload

*93WP0234A Hyderabad DECCAN CHRONICLE
in English 5 Aug 93 p 9*

[Text] Bombay, Aug 4 (UNI)—The Scientific Advisor to the Defense Minister, Dr A.P.J. Abdul Kalam, says India has made tremendous success in rocket technology. The success is mainly due to interaction at various levels and managerial equity, which needs to be improved.

Dr. Kalam told newsmen at the Bhabha Atomic Research Center (BARC) on Wednesday that the country's four-stage satellite PSLV would be launched very soon to carry the world's largest payload for remote-sensing.

He said the short-range surface-to-surface missile Prithvi was in its final phase of flight trial. "We are progressing well and the flight is on its advanced stage," he said after addressing the 36th graduation function of the BARC Training School.

The training school has been responsible for creating and augmenting highly skilled professional manpower in the nuclear and hi-tech areas of science for the Department of Atomic Energy (DAE).

The Atomic Energy Commission (AEC) Chairman, Dr. R. Chidambaram, told newsmen later that India's stand

on nuclear policy was not going to change in spite of pressures building up on the country.

He said India's nuclear program "is transparent" and nuclear energy is quite necessary and important for the development of the country.

Dr. Chidambaran parried questions with regard to recent reports that Pakistan had achieved nuclear capability and that the country could manufacture an atomic bomb at short notice. He said India had been going through such reports for the past several years.

Earlier, addressing the function, Dr. Kalam said India had made tremendous success in rocket technology. The success was mainly due to interaction at various levels and managerial equity, which needed to be improved.

Dr. Kalam, the pioneer of India's missile technology, said the BARC had a unique past under the stewardship of Dr. Homi Bhabha. He was happy that the old tradition was still continuing at the institute. "I still see the continuity of tradition," he said and had high praise for the BARC School, which had made good progress.

While addressing the function, Dr. Chidambaran said India was going through the most challenging times of the technological control missile regime. The so-called missile control regime and nonproliferation made commercial sense rather than anything else. These controls were going to be tightened in the near future for economic reasons, the AEC Chairman said. He said India had to take pride in its national development.

G-7 Countries Allegedly Trying To Disarm India

*BK2009082593 Delhi THE HINDUSTAN TIMES
in English 26 Aug 93 p 11*

[By Jasjit Singh]

[Text] The G-7 countries are reported to have cautioned/advised India recently against development of the Agni [fire] intermediate-range ballistic missile (IRBM) and the deployment of the 250 km range Prithvi [earth] surface-to-surface missiles. That a similar demarche was also issued to Pakistan does not really make it any more legitimate, or realistic. In fact, this only underlines the basic flaw, intended or otherwise, in the U.S. and G-7 position of taking a lopsided view of the problem and, therefore, its solution.

At the outset it must be stated and understood very clearly that ballistic missiles are a factor of instability and a threat to India's security interests. Therefore, it would be in our interests to see that all such missiles (or at least those that are likely to place India within their range) are eliminated. But the problem is that China deployed its missiles more than two decades ago, and the Chinese supplied 2,700 km range IRBMs to Saudi Arabia in 1988, and these have been upgraded recently. ICBMs [intercontinental ballistic missiles] and other missiles continue to be deployed in Central Asia. More

than 500 ballistic missiles are estimated to be still in Afghanistan, and serious uncertainties exist about who controls them. Pakistan is certainly likely to have had access to them now with the ISI [Inter Services Intelligence]-protege as the Prime Minister in Kabul, if not during the past three-odd years.

Pakistan itself demonstrated the 300-km range Hatf [deadly]-II missile in 1989, and has been developing the 600-km Hatf-III. At the same time, according to U.S. (administration report to the Congress) China has been continuing to support the Pakistani missile program. Many Pakistani experts had asserted as early as October 1991 that the Chinese supplied M-11 missiles had been integrated into the Pakistani military. The demarches, in particular the UK Government's note, seem to ignore these realities, especially the fact that the prestigious International Institute for Strategic Studies, London, in its annual publication—Military Balance 1992-93, released in October 1992, had reported that 18 Hatf-I/II were deployed with the Pakistani army.

The problem with missiles is that there are no effective and credible defense systems available at present or in the foreseeable future, especially in the developing world. This is why U.S. (and G-7) actions appear to be aimed at disarming India. On the other hand, the G-7 action also raises a fundamental question: Will the U.S. and its allies be willing to include India amongst the countries sharing the development and deployment of anti-missile defense systems? If not, surely the U.S. must show adequate sensitivity to our security concerns. This becomes extremely important when the U.S. and its other G-7 partners apply pressures on India without addressing the issue of ballistic missiles in the Asian region and Saudi Arabia.

It may be recalled that while negotiating the INF (Intermediate Nuclear Forces) Treaty (signed in 1987), the U.S. and G-7 partners had insisted that the Soviet Union must include its ballistic missiles in the Asian part of the Soviet Union, without seeking a corresponding obligation on the part of China. Even now the India-Pakistan coupling totally disregards the immediate regional security environment of India, leave alone the larger global realities. The G-7 position might have been more defensible if the demarches had been concurrently issued to China, Saudi Arabia, Iran, Afghanistan, Kazakhstan, etc.—or for that matter, Israel and other countries.

The report of the Clinton administration to the U.S. Congress three months ago on the subject of nonproliferation in South Asia had raised many hopes in India that the U.S. would be more sensitive to our security concerns. The report had stated that "dealing with nuclear and missile proliferation in South Asia will require that the U.S. and others take into account both Indian and Pakistani domestic political concerns and regional security threat perceptions, including those extending beyond the two countries themselves." This fundamental point seems to have been ignored by the administration in actual execution of policy.

The U.S., of course, had made it clear in the same report that it will seek the cooperation of its close allies/friends to apply pressures for nonproliferation (read disarmament?) in South Asia. But South Asia does not exist in isolation. One would like to understand the G-7 Governments' position how and why the deployment of the 250-km range Prithvi with a 500 kg weapon payload would have a greater "adverse effect on regional security" than the deployment of Chinese six missile armies with hundreds of missiles, Israeli missiles, the Saudi CSS-2 IRBMs, or the F-16, and Jaguar/Mirage-2000 aircraft which carry more to greater ranges in strike roles? Or are they preparing the ground for denying maintenance support for these aircraft? And what about the AJT (Advanced Jet Trainer) for which very high-pressure salesmanship has been going on by the UK and France? The British Hawk AJT, for example, is capable of delivering 3,000 kg weapon load to ranges of 500 km or more. The UK also could not be unaware that Lahore and Amritsar are within 40 km of the border; and nuclear weapons could be delivered on either side, theoretically, even by bullock-carts!

But to revert to the original issue, we need to clearly emphasize the basic point that we consider ballistic missiles a threat to our security, and in the absence of credible defenses against them, we have no option but to try and create a defence capability through deterrence. At the same time we need to look for ways and means of increasing stability in the context of these parameters.

The idea of an Indo-Pakistan dialogue on the subject, which seems to be the thrust of the G-7 demarches, requires serious examination. The British Government seems to think that some sort of agreement which ensures that India and Pakistan would refrain from deploying missiles and making them operational would be required. However this approach is fundamentally flawed since, if implemented, it would leave India totally defenseless against the ballistic missiles already deployed around India.

Pakistan, understandably, has already expressed its willingness for a 'bilateral missile proliferation' agreement as reportedly suggested by its Foreign Minister to the U.S. Secretary of State soon after the G-7 demarches were issued to India and Pakistan. This is obviously a clever public relations ploy. Like the NPT [Nuclear Nonproliferation Treaty] argument, Pakistan can be quite certain that India cannot possibly agree to this framework for reasons outlined above. More importantly, and for the reasons already stated, there is virtually no scope for any arms control measures (except in clearly defined terms which have no third country implications) between Pakistan and India. By emphasizing the impossible, the G-7 would only erode their own credibility.

It is, however, possible to work out a series of confidence-building measures related to missiles so as to enhance stability between Pakistan and India. The most important of these would be to institute agreements for non-attack on population centers, economic targets, and

chemical industry. And India should propose this at an early date so that it is on the agenda for a dialogue by the time an elected government is installed in Islamabad. Such an agreement would be a logical extension of the existing Indo-Pakistan agreement on non-attack on nuclear installations.

At the same time we need to put in place a bilateral agreement on non-use of nuclear and missile capabilities against each other. This, by itself, would not be an adequate guarantee against use of missiles. But it will go a long way in establishing norms and inhibitions against their actual use. India and Pakistan should also affirm a mutual goal of jointly working for the universalization of the INF Treaty (extending the lower range limit down to 50 km) as a preliminary step to the universal elimination of missiles. In a step by step approach, we could also accept the elimination of missiles from the continent of Asia and the contiguous oceans out to 5,500 km distances as an interim measure. At the same time, it must be noted that missiles cannot be taken out of the overall political and military context of inter-state relations. Near total absence of transparency in the military postures of almost all our neighbors militates against mutual trust and confidence. We need bilateral/multilateral agreements to enhance transparency.

The measures outlined above may not meet G-7 objectives fully. But they would be totally consistent with the ground realities and not only meet the essential requirements of legitimate security needs of India and Pakistan, but also establish the basis for a paradigm shift in the bilateral relationship which could, with time, make missiles and nuclear weapons redundant.

Multifunction Antenna for Missile System

*93WP0248A Bombay THE TIMES OF INDIA
in English 11 Aug 93 p 12*

[Text] Bombay, Aug 10—The development of the surface-to-air missile system, "Akash," had a significant breakthrough when a multi-function "phased array antenna" was fabricated and integrated into the system at the Bangalore-based Electronics and Radar Development Establishment.

The radar was capable of surveillance, target designation and simultaneous tracking of multiple targets, according to *Astra*, the official organ of the Hyderabad-based Defense Research Development Laboratory and Research Center Inmarat.

According to *Astra*, the new radar is also equipped with the capability to track the "Akash" missile and guide it until it knocks off an incoming target.

The radar, using a state-of-the-art "phased array principle," has been christened, "Rajendra".

Mounted on a specially designed vehicle, the "Akash phased array" works in conjunction with the missile launcher mounted on a tracked platform, according to *Astra*.

In another development, at a function recently at the Bombay works of Larsen and Toubro, the scientific adviser to the Defense Minister, Dr. A.P.J. Abdul Kalam, received the first unit of the missile carrier vehicle for the "Nag," the anti-tank missile system.

Equally significant is the fact that for the first time the short-range "Prithvi" missile was fired in its full battlefield configuration along with all the ground support systems.

"Prithvi" would now be subjected to intensive user trials by the army prior to induction sometime in 1994, reports *Astra*.

Meanwhile, the short-range quick-reaction surface-to-air missile "Trishul" also moved toward a similar goal with a series of flight trials in June which tested its guidance systems.

Some more "Trishul" flight trials have been scheduled including a few in the battlefield configuration, states *Astra*.

Official Says Country in Position To Export Nuclear Reactors

*BK3009010193 Delhi All India Radio Network
in English 1530 GMT 29 Sep 93*

[Text] India is in a position to export multipurpose nuclear research reactors and heavy water to other countries under international safeguards. This was stated by the chairman of the Indian Atomic Commission, Dr. R. Chidambaram, while addressing the 37th general conference of the International Atomic Agency in Vienna yesterday. He said that India has devised an experimental reactor fuelled entirely by uranium-aluminium alloy for neutron activation analysis and other experiments. He said that another multipurpose research reactor suitable for the production of radio isotope, advanced physics, and material research has also been designed. India has also successfully produced indigenous heavy water which can be exported.

Capability to Make 65 Nuclear Bombs by 1995 Claimed

*BK2709102593 Islamabad THE NEWS in English
26 Sep 93 p 12*

[Text] New Delhi: India will be able to make 65 nuclear bombs by 1995 as its stockpile of weapons grade plutonium is expected to rise substantially by then.

Claiming this in a report a group of Austrian scientists said India's stock of weapons grade plutonium was around 290 kg at the end of 1991. This was expected to rise to 400 kg by 1995, they observed, adding that while India would be able to make 65 nuclear bombs, Pakistan, which has about 200 kg of such uranium, could produce 13 bombs.

The scientists, in a lengthy critique of the Vienna-based International Atomic Energy Agency (IAEA), further

said: "India has seven nuclear power plants with one under construction and six more research reactors, while Pakistan has only one nuclear power plant and two research reactors."

The third South Asian country to have a research reactor is Bangladesh, they said.

China has only one nuclear power plant with two under construction. China, however, possesses 12 research reactors, the report said. Besides China, India is the only developing country to possess "home made" nuclear power plants.

IRAN

Alleged Nuclear, CBW Installations Identified

93AA0151Z Tel Aviv HA'ARETZ in Hebrew
27 Aug 93 p B5

[Article by TZ. Rinat: "The Order of the Secret Keepers"]

[Text] Even the Iranians have their own Vanunu—the opposition organization "Mujahidin Halaq," which publishes, from time to time, data on the production of nuclear, chemical, and biological weapons in its country. In contrast, in Israel, there is silence and hushing in everything related to these subjects.

The supply of long-range missiles to Syria, and the information about the Chinese ship that is suspected of carrying chemical fighting means to Iran—these two things stood in the background of the talks of the demilitarization of weapons in the Middle East, which were renewed last week in Geneva. The Middle East is a central destination of the business of means of mass destruction and one of the central arenas for its development, and what unites the countries that are partners in this activity is the lack of cooperation with the attempts being made in the world to monitor these means and prevent their distribution. Israel has not signed the treaty for the nondistribution of nuclear weapons, and it prevents the monitoring of its nuclear installations. Iran and Iraq have signed this treaty, but it does not keep them from continuing to construct the nuclear groundwork and the groundwork for the production of biological and chemical means of destruction.

Less than a year ago, the Iranian opposition organization, Mujahidin Halaq, published data on the efforts of the regime in Iran to obtain weapons of mass destruction. Clear propaganda purposes stand behind the Mujahidin's publications, but the organization has sources of information inside Iran, and in recent months, some of the data published by its people have been verified. According to the organization, the effort to develop mass [destructive] weapons is being centralized by the revolution guards. More than 50 foreign experts are conducting the development projects, most of them dealing with the construction of Iran's nuclear installations. Two experts who were

recruited for particularly high salaries came from Kazakhstan and Turkmenistan, and other experts came from China and Hungary. According to the Mujahidin, Iran has already signed a transaction to purchase four nuclear warheads from Kazakhstan, which alone retains more than 1,000 strategic warheads, but the transaction has not yet been carried out.

The Iranians broke ground in the development of weapons of mass destruction after President Rafsanjani's visit to China a year ago, during the course of which cooperative agreements between the two countries were signed. Since then, the construction of installations for the production of weapons has continued throughout Iran. Adjacent to the city of Esfahan [see map], a small nuclear reactor is already in operation, some of its installations camouflaged or built beneath the ground. The construction of 40 percent of the installations was completed by experts from China and Russia, which do not come in contact with one another.

One of the central sites of the Iranian nuclear industry is the site of Gorgan [see map], adjacent to the Caspian Sea. The Iranians signed an agreement with the Russians for the construction of two civilian reactors with 440 megawatts at that location, and, according to the Mujahidin, they have joined some of the Russian technicians and scientists working at that location so that they would help them use the reactors for military purposes. At the site in Bandar 'Abbas [see map], the Iranians set up a production line for ballistic missiles, and even conducted in it, with the assistance of a German company, experiments in turning American Silkworm missiles into long-range missiles. They also conducted experiments in mounting nuclear warheads onto long-range missiles.

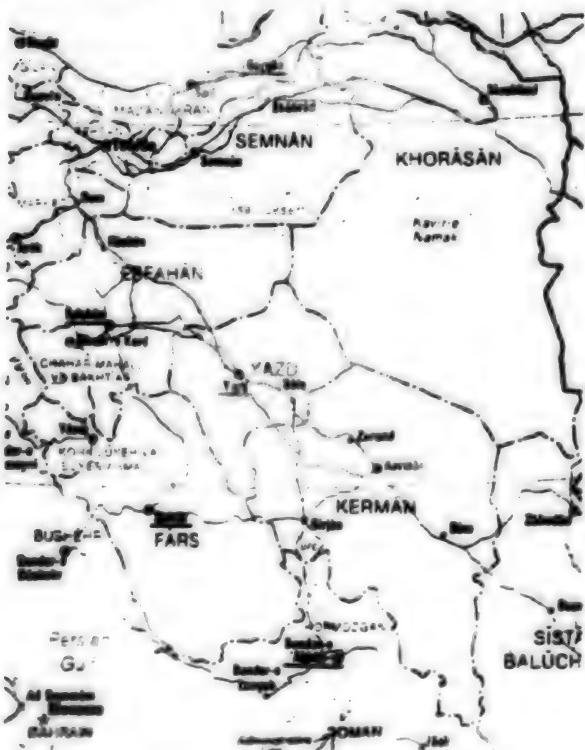
One of the most secret of the Iranian sites is located adjacent to a uranium mine in Yazd [see map], which is in central Iran. All members of the team who work in that location are brought to it in a closed vehicle—so that they will not be able to identify its exact location.

The Iranian effort to develop biological and chemical warfare weapons is also continuing at full force. At Marv Dasht [near Shiraz, see map], east of the Persian Gulf, the Iranians are manufacturing mustard gas. In 1987, a fire broke out there, causing the deaths of 400 people. At the site of Karaj [near Tehran], which is one of the largest sites in Iran for the development of weapons of mass destruction of various types, the Iranians are dealing with the development of biological weapons.

Iran and North Korea are currently the two countries closest to joining the countries that already have nuclear weapons in their possession. The report by the International Institute in Search of Peace, in Stockholm, published five months ago pointed out that in Iran there are 50 sites in which natural uranium can be mined. In the Institute's estimation, Iran will develop a nuclear bomb within five to seven years. The North Koreans have, according to Japanese sources that the Institute quotes, 16 to 24 kg of plutonium, from which two or three bombs can be produced. The KGB claims that North Korea succeeded in smuggling 56 kg of plutonium out of Russia.

Israel, the prestigious Swedish institute has determined, has much more impressive achievements than those of North Korea and Iran in the development of nuclear weapons. At the end of 1991, Israel had, according to the Institute's data, 240 to 415 kg of plutonium, from which it is possible to produce dozens of nuclear warheads. A typical nuclear warhead contains between 3 to 5 kg of plutonium. The Institute estimates that Israel already has 100 warheads, as well as hydrogen bombs. It also claims that Israel has nuclear mines in the Golan Heights.

According to estimates, there are 1,000 tons of plutonium and 1,300 tons of enriched uranium, the two materials that are used to produce nuclear weapons. One-fifth of the amount of plutonium, one of the most deadly materials ever created by man, came from the control of the five official nuclear superpowers (Commonwealth States, the United States, France, Britain, and China).



Map Location of Esfahan, Gorgan, Bandar Abbas, Yazd, and Shiraz

Amrollahi Says Israel Main Obstacle to Nuclear-Free Zone

*LD2909182393 Tehran IRNA in English
1724 GMT 29 Sep 93*

[Text] Vienna, Sept. 29, IRNA—Head of Iran's Atomic Energy Organization, Reza Amrollahi, repeated the Islamic Republic's call for the establishment of a nuclear-free zone in the region and said Israel's refusal to allow the International Atomic Energy Agency (IAEA) to

inspect its nuclear facilities as well as Zionist disregard for the Nuclear Proliferation Treaty (NPT), were the main obstacles in this regard.

Amrollahi, here for the 37th regular session of the IAEA said the western media were indulging in false propaganda against Iran and Pakistan, when the Zionist regime was the "core" of nuclear threat in the region.

In a talk with IRNA, Amrollahi, who also holds the post of Iran's vice-president, pointed to the Zionist influence and lobby in the western press, especially in the U.S. and as an example referred to the hue and cry raised over North Korea's nuclear program and their complete silence over Israel's nuclear capabilities.

He also called the U.N. Security Council "a tool in the hands of western powers, especially the U.S. for political gains".

Amrollahi praised Iran-IAEA relations, especially in technical fields and promised full cooperation with the agency, as in the past, on the basis of peaceful use of nuclear energy.

Nurbakhsh Says Iran Not After Mass Destruction Arms

*LD3009124493 Tehran Voice of the Islamic Republic of Iran First Program Network in Persian
1030 GMT 30 Sep 93*

[Text] Mohsen Nurbakhsh, our country's vice president for economic affairs, has announced at the annual session of the World Bank and the IMF in Washington: Iran under no circumstances seeks to obtain mass destruction weapons.

According to an AP report, Mr. Nurbakhsh said: The Islamic Republic of Iran has reduced its military over in the past two years, and believes that any activities resulting in instability in the Middle East must be stopped.

Pointing out that Iran has signed the agreement banning the proliferation of chemical weapons, he said that America's extensive propaganda about the shipment of poisonous substances to Iran by a Chinese ship was a deliberate act of spite.

Envoy Addresses OPCW Session in The Hague

*LD2809194493 Tehran IRNA in English
1535 GMT 28 Sep 93*

[Text] The Hague, Sept. 28, IRNA—Ambassador Sirus Nasser of Iran said here Monday that the convention on the prohibition of the development, production, stockpiling, and use of chemical weapons and on their destruction is a unique treaty eliminating a class of weapons of mass destruction.

Chairing the fourth plenary session of the preparatory commission for the OPCW (Organization for the Prohibition of Chemical Weapons), Nasser, in his opening

statement added that chemical weapons have been used extensively in the past and form an essential component of the military posture of certain states.

He added: "Now the international community has opted for a zero option. This constitutes a historic international achievement."

The OPCW commission which started work here Monday and is to last through October 1, was established for the enforcement of the Paris convention for prohibition of chemical weapons with 146 signatory states.

Nasseri, Iran's ambassador to the U.N. in Geneva, in his speech, called the convention "the result of over two decades of relentless efforts by the international community to remove these barbarous weapons from our planet."

He went on to say: "The convention made good on the general conviction that our human civilization is better off without weapons of mass destruction and that theories based on a balance of terror are no longer tolerated."

The commission chairman also underlined the fact that soon there will be a single, reliable, global verification system accepted by the entire international community. This puts the international community in full charge and gives it the necessary means of determining where, when, and by whom a violation has occurred and what needs to be done to redress it.

Nasseri, exploring the importance of active participation of all signatory states, said: "Not only will it contribute to better preparation for implementation of the convention at the global level, but it also gives each individual state a good advantage when they begin considering ratification."

The commission, at its fourth session, is to pay further consideration to the composition of inspection teams as well as the recommendation and reports of the various expert groups, review the status of the infrastructure, personnel and external relation activities of the secretariat and consider and approve format of the meeting and the draft agenda.

Nasseri, who was elected OPCW chairman for the second six months period beginning in August, called on member states not to wait to see the end of preparation process to gear up for its implementation.

"The more they are engaged now, the more familiar they will be with the various aspects and the details of this convention. I, therefore, take the liberty to encourage all signatory states, particularly the developing countries, to try to enhance their participation in our exercise at all

MAURITANIA

Nation Joins Nuclear Nonproliferation Treaty

LD3009020293 Nouakchott ORTM Radio in Arabic
2300 GMT 29 Sep 93

[Excerpt] The Council of Ministers convened today under the chairmanship of President Maaouya Ould Sid 'Ahmed Taya. The council studied and endorsed the following bills: A bill that permits the Islamic Republic of Mauritania to join the nonproliferation of nuclear weapons treaty signed on 1 July 1986 in Washington, London, and Moscow. By joining the treaty, our country expresses its commitment to peace and its eagerness to contribute to international efforts to combat the proliferation of mass-destruction weapons. [Passage omitted: other bills endorsed; President Taya briefed the the council on his visit to China; ministers of foreign affairs, interior submitted reports to the council.]

PAKISTAN

Sajjad Says Unilateral Nuclear Solution Not Acceptable

BK1909150793 Islamabad PTV Television Network
in English 1400 GMT 19 Sep 93

[Text] The acting president, Mr. Wasim Sajjad, has said the Muslim ummah [community] must evolve a coordinated action plan to create a strong, scientific, and technological base by pooling its material and human resources. He was inaugurating the sixth meeting of the ICO Standing Committee on Scientific and Technology Cooperation [COMSTFC].

[Begin Wasim Sajjad recording] I recognize two important problems of the ummah, which may assume threatening proportions for them in the near future. One is food security and the other is energy security. With the exception of three countries, all the remaining Muslim countries face acute food deficit and are dependent on other countries. Nearly \$3 billion worth of food is imported by Muslim countries from outside. The Muslim ummah must, therefore, extricate itself from such a deplorable situation with the utmost possible sense of expediency and earnestness. Another problem is the shortage of energy. With conventional sources of energy being limited, we must look for alternative sources of energy. Our scientists in the Muslim world must study these options and conduct further research on resources most suited for Muslim countries. [End recording].

The federal minister for science and technology, retired Lieutenant General Mohammad Shafiq, underlined the need for determined efforts to achieve self-reliance. The coordinator general of COMSTEC, Dr. M.A. Qazi, gave a brief account of the joint scientific and technological

The secretary general of ICO, Dr. Hamid al-Ghabid, said the challenges in terms of economic, social, and cultural development for the Muslim world are of a complex nature and require careful and skillful tackling.

Later, talking to newsmen, the acting president said Pakistan will not accept any unilateral solution of the nuclear issue and missile control regime. We would welcome any solution if it is based on equality and justice. Pakistan, he said, would only sign the Nuclear Nonproliferation Treaty if it is signed by India first. Our peaceful nuclear program to meet energy shortfall will continue. Replying to a question on Kashmir, Mr. Wasim Sajjad said it is a pending dispute with the United Nations and its only solution is to implement UN resolutions.

Article Views Sanctions, General Hoar Visit
BK1909141593 Karachi DAWN in English
19 Sep 93 p 11

[M.B. Naqvi article: "Gen Hoar's visit"]

[Text] Curiously Gen Joseph P. Hoar seems to have taken up from where Pakistan Foreign Secretary had left off in the dialogue with the Clinton administration. Naturally, the American General is expected to emphasise the military related aspects of the bilateral and regional situation. And for the more political parts of these negotiations, other US officials are being expected.

Apparently these talks do not aim at the withdrawal of the sanctions over the suspected transfer of missile technology, violating the MTCR (Missile Technology Control Regime) through the Chinese sales of M-11 rockets. Pakistani officials are playing down the significance of the embargoes, portraying their country to have been caught in a crossfire between China and the U.S. The issues at stake between the two great powers are probably wider than merely M-11 missile sales. Even so, America has imposed sanctions on Pakistan for two years, although they are category two sanctions. It is a punishment defining the quality of bilateral relationship and should not be poohpoohed.

Net impact of this punishment would be slight, it is said. Perhaps so. But the sanctions' principal victim is Pakistan's Ministry of Defense; all its imports can be affected. At this stage, it is not clear which of its imports shall be affected. It may be that the specifics will, as is usual, remain a matter of uncertainty and bargaining. Americans are expected to be flexible. But the people to decide will not be Pakistanis. Hence the background of Pakistan-American relations is vital, and also how much does this country accept the US wishes.

Two facts are outstanding: Pakistan-American relations are ambiguous and have ascribed a roller-coaster course ever since the Afghan war ended. There are plenty of convergences and divergences in the approach and purposes of the two parties. General orientation of Amer-

extent, Pakistan's own being and becoming is sure to have an impact on links with America.

Secondly the U.S. is embarked on a leadership course in Asia and its top objective is to ensure nonproliferation of nuclear weapons and missile technology. Other American objectives, except promotion of trade and Governments, would be secondary. President Clinton's decision to travel to South Korea to utter the warning to North Korea was to underline the importance of this American objectives. All American policies are integral to this aim.

Domestically, our political instability has encouraged the loud rhetoric of rightwing parties about Islam, especially of the Jamaat-i-Islami-dominated PIF (Pakistan Islamic Front). It is sure to produce deep unease in Washington and some Western schools' reaction is consternation and panic. The question is whether being frightened by the spectre of such Islamic fundamentalism is right. But it is not for us to judge. Anyway, the situation is piquant; dyed-in-the-wool pro-American conservatives are beating their breast about defying America while the latter's is doing all that would confirm their worst suspicions. Although one is not sure which of their commitments—to conservative politics that would always warm the cockles of American hearts or to Islamic objective that the Americans see as fundamentalism—will finally prevail, American reaction remains understandable. This unavoidably is an input in the Pakistan-American relations.

Pakistanis used to be sure of their strategic importance; situated so close to the narrow neck of the Persian Gulf and also well placed to play a role in former Soviet Central Asian republics. Pakistani decision makers thought that they would continue to be cultivated by Americans. The assessment was valid so long as the cold war lasted. In the meanwhile, development of technology and the specific diplomatic purposes of the surviving superpower have largely changed the perspective.

American conduct has punctured Islamabad's confidence. Clever-by-half calculations have restored some of the older certainties. Geography, at any rate, has not changed and questions raised by the disappearance of Soviet Union are seen as having opened a window of opportunity for Pakistan in Central Asia. The expansion of the ECO [Economic Cooperation Organization], from the Pakistani viewpoint, was a logical consequence. It confirmed their partly real and partly wishful assessments.

The fact, however, remains that the major policy thrusts of America are quite unrelated to Pakistani sensibilities—the preoccupation in Washington seems to be that most issues should be tackled on a case by case and in an eclectic manner. The problem for Pakistan is to determine whether they would continue receiving a favored consideration from the only superpower. For some obscure reason, mandarins in Islamabad cannot conceive of life without such a favored treatment. It would be far better if we err on the side of caution and not

serious. They should be tackled on merit. A lot of lawyer-like stalling and focusing on peripheral aspects may afford sentimental satisfaction and possibly provide opportunities of politicking. But since the Americans mean business, it would be better to employ what intellectual courage we have. Let us get down to the roots of problems.

Insofar as the nuclear issue—that the Americans regard as the core issue—is concerned, it is, from Islamabad's viewpoint, regional in character and is not a bilateral one between America and Pakistan. But it can legitimately be considered a bilateral one between Pakistan and India. India's nuclear program is certainly a larger and more complex question. Indians flare up at the suggestion of their program being equated with the puny little Pakistani effort; they immediately bring in the Chinese Bomb. It cannot be denied that this is a strong talking point for South Block because Sino-Indian relations have been bad since the late 1950s and there was a war between them in 1962.

And yet China exploded its first atomic device in 1964 and Indians felt no great urgency to reply. They did so only in May 1974 despite a capability to fabricate a device at a few weeks notice since the mid-1950s. For a whole decade, Indian security did not feel too threatened by China's nuclear deterrent. Many Indians feel that Indian security does not require nuclear weapons simply because of the Chinese deterrent. The obscurity of Indian motivation in wanting an independent nuclear capability remains. Whatever South Block may have to say about China or other Navies in the Indian ocean, one still considers Islamabad to be right in this assessment; Indian nuclear deterrent is primarily aimed at Pakistan. (No one in Pakistan makes any pretense about the Pakistani effort having been conceived only in terms of India).

The spread of nuclear weapons in South Asia threatens primarily the Pakistanis and Indians and also Nepalese, Bangladeshis, Sri Lankans, and others. Visualizing a nuclear exchange ever taking place in the Indo-Gangetic valleys is a nightmare. Americans anyhow would not be directly affected. Therefore the issue should be primarily between the Pakistanis and Indians. One is aware that the Indian establishment has no policy on the subject—except lowering the head and continuing with what they may be doing. Indians do not wish to talk on this subject and feel embarrassed by it.

A new rhetoric has begun emanating from New Delhi and Islamabad; the first harmony between them to be regretted: American moral position is weak; they employ double standards between the five big nuclear have-nots and all others; the NPT [Nuclear Nonproliferation Treaty] is discriminatory in permitting vertical proliferation for the haves while enjoining total abstinence on the have-nots; so long as the big five, who are also permanent UN Security council members, do not start

The argument, strictly speaking, is technically unassailable. But it does not address the main problem, which is nuclear weapons in the Indus and Ganga plains. The Big Five, whether good or bad, are actually irrelevant both in logic and morality. They may have a lot to answer for. But they are not responsible for the Indian or Pakistani nuclear weapons. I see no logical or moral link between the American miniaturization of hydrogen bombs and the crude, dirty, and heavy Pakistani one—or for that matter Indian ones. Do let us give up hypocrisy and face facts that an intermittent and shamefaced nuclear arm race is on in South Asia, quite independently of the Big five.

One has talked much on the nuclear issue is mainly because much will turn on this issue. Secondly all other circumstance—Pakistan's economy, so critically dependent on American goodwill, regional peace, again being kept mainly by American influence—with the curious combination of an ascending degree of American influence in Islamabad and the rising decibels of Islamic rhetoric by erstwhile pro-Americans make for much uncertainty. Then there are irritants like the heroin and cannabis trade. Among these as the events of July 18 have shown, the US was a palpable influence, even if it had no option but to act with, and through, the Pakistan Army Chief. That raises larger issues.

Little meaningful can be said about India here. But the straws in the Pakistani wind since July 18 last and the strong presence of the caretakers show that the US seems to [word indistinct] more store by Pakistan Army's stability promotion than by democracy. American fear of fundamentalism, mostly exaggerated, can be very dangerous for this country's future. It is hard to say what is in store for us. For the moment, suffice it to say that the loud Islamic rhetoric is receiving much help from those who are hardliners on the nuclear issue but otherwise are those who never conceived of life without cooperating with the US [sentence as published]. And this is so just when the Americans are undertaking an anti-nuclear crusade. Is it a moment of truth for our archconservatives or is an elaborate fixed fight beginning?

Article Sees Broad Consensus in Nuclear Policy

BK1909143793 Karachi DAWN in English
19 Sep 93 p 8

[Abdus Sattar Ghazali article: "Who Should Determine Pakistan's Nuclear Policy?"]

[Text] Caretaker Prime Minister Dr. Moeen Qureshi told a press conference in Washington recently that Pakistan had "the technical capacity" to manufacture a nuclear device but had no intention of doing so.

But is the technical capacity of making a bomb the only yardstick to measure the success of a country's nuclear program? In Pakistani atom bomb aur Ilaqai pasmanzer [The Pakistani Atom Bomb and the Regional Background] (Progressive Publishers, Lahore, Rs [rupees] 195), Raza

number of other factors that have a bearing on this program. These include the political dimensions, national security and the nuclear arms race in South Asia" as well as the persistent US pressure for nonproliferation.

One must also take into account the safety aspect of the nuclear installations in India and Pakistan. According to Raza Ali, these are not adequate. Developing countries often seek to save money by making compromises on reactor safety and environmental precautions. Nuclear reactors in Argentina, Brazil, India, and Pakistan, for example, could never meet US or European safety standards. Pakistan's under-construction Chashma reactor is a case in point. It is sited on the Indus River, the lifeline of the arid and seismically active region of Punjab. Geological experts and some Pakistani officials charge that the reactor site was chosen for political reasons and that earthquake dangers discovered later were hushed up to avoid embarrassment. A report by a US earth science firm, Seeber and Armbruster, had warned that in 1976-77 the area suffered 156 earthquakes. A single quake large enough to liquefy the site and crack open the reactor could contaminate the entire Indus River valley with radioactive water. The Pakistan government used a report submitted by another firm which said any liquefaction problems are controllable. It is easy to see why the government made such a choice, controlling the liquefaction problems, if it were possible to do so, would at least double the project's cost.

Grim evidence of inadequate safety measures at India's nuclear reactors emerged earlier this year when a major fire swept through the Nardra nuclear power station southeast of New Delhi. The blaze, which caused damage worth millions of dollars, renewed national concern over safety standards at India's nuclear facilities.

The Nardra blaze was not the only accident to befall India's sprawling nuclear industry in recent times. There were no fewer than 147 "safety related unusual occurrences" last year, according to the Atomic Energy Board.

According to Raze Ali:

The former Prime Minister Zulfikar Ali Bhutto, the founder of Pakistan's nuclear program, alarmed the pro-Israeli powers and India from the very beginning by using the term "Islamic bomb". Bhutto was obsessed with the nuclear issue and played up the reprocessing plant issue unnecessarily. —The Shah of Iran was not in favor of the nuclear program of Pakistan because he believed that a Pakistani nuclear bomb would strengthen the Arab world in general and Libya in particular. —Despite its best efforts when Pakistan failed to buy an atomic power reactor from the west the former Soviet Union offered to supply the required reactor, provided Pakistan supported the Soviet point of view in solving the Afghan Issue peacefully. However, at the time the US and the UK were threatening to impose economic sanctions on Pakistan for supporting the Afghans, the Soviet Union withdrew its offer.

Minister Benazir Bhutto did not show any interest because of the inefficient performance of the reactor.

The author is of the view that there has been a uniformity of thought in Pakistan on the nuclear program for the last 15 years and public opinion by and large supports that point of view. Certain elements of this thinking are:

1. The atom bomb is vital for the defence of the country against a powerful neighbour, India.
2. Pakistan should not sign the Nuclear Nonproliferation Treaty (NPT) unless India does so. Pakistan's unilateral signing of the NPT is seen as an unpatriotic act.
3. The atom bomb is not only necessary to ensure the freedom and security of Pakistan but the Islamic world would also benefit from it.
4. Outside pressure on Pakistan's nuclear program is a violation of its sovereignty which should be resisted at all costs.

However, Dr Inayutullah of Quaid-i-Azam University, Islamabad, in the preface of the book suggests that the discussion should be directed towards the basic questions: —What would be the result of a nuclear arms race between Pakistan and India? Who would win this race and at what cost? —There are strong lobbies in Pakistan and India against abandoning the national nuclear programs which are pushing both countries towards a horrible atomic war. —Should the pre-bomb Indian lobby determine Pakistan's policy on the subject or should policy be evolved by taking into consideration our wider national interests?

"We should not forget that if this is left to the pro-bomb Indian lobby then it would accelerate the atomic weapons race and destroy Pakistan's economy and national amity. Thus India will achieve an upper hand even without using the atomic weapons." —It is argued that India desires to annex Pakistan to create "Greater Bharat." Even if this argument is accepted, Indian "designs" should be countered by adopting same other policies that also promote national harmony and ensure economic prosperity for the benefit of the common masses.

Dr. Innyat says that the solution of this problem may not be difficult for a country that is economically strong, but for a country like Pakistan that is bordered with a population explosion, huge debts, and internal strife, a solution to this question calls for deep thinking.

The author rightly says that the reason for the ineffectiveness of the Nuclear Nonproliferation Treaty (NPT) is that the US and other nuclear powers were pressing other states not to require nuclear weapons while they themselves continue to pile up such weapons. He also refers to the contradiction in the US claim to be a nuclear

The book is a welcome and useful addition to the very small corps of books in Urdu on this subject even though one may not agree with the arguments of the author. Since the theme of the book is basically related to current affairs, the author draws heavily from newspapers and magazines that have yet to take the form of books.

Further on Sajjad's Remarks on Kashmir, Nuclear Issue

BK2009154393 Islamabad THE PAKISTAN OBSERVER in English 20 Sep 93 pp 1, 4

[Excerpt] [Passage omitted] President Wasim Sajjad has ruled on the possibility of the solution of Jasmin and Kashmir dispute along the lines of PLO-Israel agreement.

Talking to newsmen after inaugurating the sixth meeting of the ICO [Islamic Conference Organization] Standing Committee on Scientific and Technological Cooperation (COMSTECH) here on Sunday he said Pakistan's stand on the Kashmir dispute is very clear adding that the solution of the problem lies in the implementation of the relevant UN resolutions.

When his attention was drawn towards Indian Prime Minister Narasimha Rao's statement that India would neither sign the nuclear Nonproliferation Treaty (NPT) nor would she go for a ban on missile technology regime, the Acting President reiterated that Pakistan would not unilaterally sign the NPT. We would however reciprocate if India agrees to sign the NPT he added.

He said Pakistan has so far floated a number of concrete suggestions for the establishment of a nuclear weapons free zone in South Asia. But India has never responded positively to any suggestion or a proposal, he regretted. He categorically said Pakistan which wants to utilize nuclear technology for meeting the energy shortage would continue its peaceful nuclear program. He said Pakistan is keen to resolve nuclear issue on the basis of equality so as to usher an era of peace in the region.

Responding to a question about his talks with Commander-in-Chief of the US Central Command General Joseph P. Hoar, who recently visited Pakistan, the Acting President said that during the talks he stressed that at a time when the Cold War is over and global issues are being resolved on merit it is essential that all outstanding international issues including Kashmir should be solved on the basis of meeting, morality justice, equity and international law.

He said during his meeting with Hoar he had made it clear that only the implementation of the relevant UN resolutions could lead to a durable settlement of Jammu and Kashmir dispute.

Asked as to what is the significance of General Hoar's visit to the forward positions at Siachen glacier and Kashmir he replied that there is no significance of Hoar's

visit to those areas. He had gone there just to see from his own eyes the prevailing situation at Siachen and in Kashmir he added.

When his attention was drawn towards recent statements made by some Indian leaders that Pakistan will be wiped out from the world map Wasim Sajjad emphatically said Pakistan will continue to exist on the world map with its full dignity and grandeur and no power on earth can cast an evil eye on its sovereignty and territorial integrity.

He refused to offer any comment when asked how he views the PLO-Israel accord.

He said the Ministry of Foreign Affairs has already issued a statement reflecting Pakistan's position on the accord.

When asked to comment on the violation of the electoral code of ethics by some political leaders, the Acting President said the chief election commissioner is the competent man to comment whether the code of ethics is being violated or not.

Responding to another question as to when the presidential elections will be held in the country he said the president elections as provided in the Constitution will be held within a stipulated period after the elections to the National Assembly.

Replying to a question about Northern Areas he said no final decision regarding their status has been taken as yet, adding that whatever will be done in this respect will be decided in accordance with the aspirations of the nations.

He agreed to a questioner that the issues having far-reaching consequences should be decided by the representative government.

He replied in affirmative when asked if he is satisfied with the arrangements being made to have free, fair, and impartial elections in the country. He categorically said that the elections to the national and provincial assemblies will be held on time and there will be no postponement or delay in this regard.

He however regretted over the recent incidents of blasts in the country and said the government is making all out efforts to prevent reoccurrence of such incidents.

Inaugurating the sixth meeting of the Organization of the Islamic Conference Standing Committee on Scientific and Technological Cooperation the President said, "We in Pakistan firmly believe that a true revival of science in the Muslim world can only be achieved when Islam permeates in our entire life and social environment. We also believe that science will rediscover its roots in the Ummah only if we develop science and technology within parameters of Islamic consciousness." [passage omitted]

Scientist Says Nation Ahead of India in Uranium Enrichment

*BK2109114193 Rawalpindi JANG in Urdu
19 Sep 93 pp 8, 7*

[Text] Islamabad (NNI)—World-famous scientist Dr. Qadeer Khan has said that people get elected and enter the assemblies on ethnic, sectarian, and regional bases. We will now have to work on a war footing to eliminate ignorance and to ensure the progress and prosperity of the country. In an interview, he said that Pakistan is accused of buying M-11 missiles from China, and in spite of the categorical denial by the government, the propaganda in this regard continues unabated. He said every country reserves the right to safeguard its sovereignty and defend its frontiers and, for this purpose, it must enjoy the right to acquire the resources it needs. It is an injustice to deprive any country of this right. Dr. Qadeer Khan said that the U.S. sanctions are aimed at harassing China. He also described as incorrect the U.S. information that in 1990 the India-Pakistan tension had escalated to a point where the two countries had even taken out and readied their respective nuclear weapons. He asserted that the falsity of this U.S. information can be assessed from the fact that Pakistan does not possess any nuclear weapon.

Answering a question, Khan said that war strategy has changed completely in this era of missiles and all countries are reviewing their respective strategies after the U.S.-Iraq war. Effective arrangements have been made to protect the Kahuta nuclear plant. Even though India started its nuclear program much earlier than Pakistan, it lags far behind Pakistan in the field of uranium enrichment. Pakistani forces are also equipped with the most sophisticated weapons and are the practical example of the poet Iqbal's interpretation of firm faith and determination and constant action. Khan said: Whenever the government assigned any task to our institution, we never disappointed it. It is, however, for the political leaders to decide whether or not to make nuclear weapons. We cannot make decisions in this regard.

Khan said that under the present circumstances, India cannot dare drop a nuclear bomb on Pakistan, and if it committed that mistake, it would not be safe from its consequences. He advised that the two countries should adopt the path of peace and tranquillity.

Answering a question about martial law, Khan said that it is imposed not because of the shortcomings in our democratic system but because of our own folly. The martial law was imposed in 1958 because of clashes over personal interests, and the second martial law was the continuation of the first one. The political wrangling and rivalry in 1977 also led to the imposition of martial law.

Comparing the nuclear programs of India and Pakistan, Khan said the foundation of our program was laid much later than that of India. New Delhi obtained a lot of

assistance from foreign countries for its nuclear program. Now, we and the Pakistan Atomic Energy Commission are trying to fill this gap. We have helped Pakistan acquire a prominent position in the community of nations and if we work harder, we can make greater strides in other fields as well. We can make our country prosperous and impregnable. Khan said he favors the Islamic system in the country, but priority must also be given to the eradication of ignorance and illiteracy. He said we have already tested the presidential and parliamentary systems of government, but it is unfortunate that while electing representatives for the assemblies, we keep in mind the candidates' sectarian, ethnic and religious affiliations instead of looking at their qualifications and character. This situation is a deadly poison for democracy and we must rid the system of all these prejudices, he added.

Ghabid Urges Nuclear Cooperation Among IOC States

BK2109130993 Islamabad THE PAKISTAN OBSERVER in English 20 Sep 93 p 1,4

[Excerpt] Islamabad—"Pakistan should not roll back its nuclear program. I don't agree to this approach" was the OIC Secretary General and its most senior official's response when asked to comment on the "pressure" being exerted on Islamabad to freeze, then cap, and finally roll back its 35-year-old peaceful nuclear program.

Secretary General Hamid al-Ghabid was replying to the questions asked by a group of journalists at a reception hosted here Sunday after the inauguration of the 6th meeting of the COMSTECH of the OIC's over 50 members, 27 were represented, mostly at the ministerial level.((sentence as received))

"Yes, of course, we are encouraging transfer of nuclear technology to other OIC member countries for only peaceful purposes," he stressed when asked as to whether he favors the sharing of nuclear technology between the Muslim countries. But, at the same time, Dr. Hamid al-Ghalid warned that it was a very sensitive issue and some people were using it against the Islamic people as propaganda.

Throughout the speeches made by President Wasim Sajid and the OIC Secretary General, nuclear technology was not mentioned even by a word. To comment on this [word indistinct] Hamid al-Ghabid, when asked to comment indicated that the nuclear technology was expected to come up for discussion in a closed-door meeting of the participants.

The secretary general also reported the idea that Islamic countries should sign up some cooperative measures in the peaceful uses of nuclear technology. "Our enemy is using nuclear energy against us, so we have to be careful. It is the right time to do it," he remarked.

Earlier, in his address to the COMSTECH meeting, Dr. Hamid al-Ghabid said the meeting had opened in the

backdrop of a "political climate filled with hope as well as disappointment and uncertainty for the Islamic community." While the deal on Palestine appeared a sign of hope to the Secretary General, the tragedy of Bosnia, aggression in Azerbaijan, repression in Kashmir, and adverse situations in Afghanistan, Somalia, and Albania fed frustration. [passage omitted]

Editorial Reiterates 'Unambiguous' Nuclear Stand
BK2209120393 Islamabad THE NEWS in English
21 Sep 93 p 7

[Editorial: "Nuclear tangle"]

[Text] Reiterating Islamabad's position on nuclear non-proliferation in South Asia, Acting President Wasim Sajjad said on Sunday that Pakistan will not roll back its peaceful nuclear program, nor accept any unilateral solution to the nuclear issue or the Missile Technology Control Regime (MTCR). While talking to newsmen in Islamabad, where he inaugurated the sixth meeting of the ICO [Islamic Conference Organization] standing committee on Scientific and Technological Cooperation, Mr Sajjad said that Pakistan will not sign the Nuclear Nonproliferation Treaty (NPT) as long as India refuses to become a party to it. He said that Pakistan's stand on the nuclear issue was very clear and unambiguous, as evidenced by its numerous proposals on the issue, which included the idea of a nuclear-free zone in South Asia. Pakistan needed nuclear technology for power generation and to meet energy shortfalls, said Mr Sajjad.

All the points made by the Acting President are well established elements of Pakistan's longstanding policy. At various forums and through different channels Islamabad has time and again made its position clear on the nuclear problem in South Asia: that this cannot be solved as long as Delhi continues to embrace grand nuclear designs, evident from its huge weapon-oriented nuclear program. The issue of the spread of nuclear missile technology in the region also grows out of Delhi's advanced program to develop intercontinental ballistic missiles.

It is strange, however, that most attempts by countries like the U.S., which aim at controlling the spread of nuclear technology in the region, have failed to take into account Delhi's nuclear misbehavior. Instead they invariably tighten the screws on Islamabad, which has always advocated a comprehensive solution to the problems that doomsday weapons pose for regional peace. The recent decision of the Clinton administration to impose ((as received)) sanctions on both Pakistan and China, for the alleged violation of MTCR rules, reflects the same one-sided approach towards solving the nuclear conundrum that has not yielded any results. Despite repeated denials by both Islamabad and Beijing of the American charge that M-11 related technology allegedly shipped to Pakistan by China violated any MTCR rules, a ban was imposed. Predictably, this provoked strong reaction from both countries which correctly saw this move as injudicious and unjust.

The U.S. and other western countries which see South Asia as a potential flashpoint of nuclear conflict, have to convince India that any plan to defuse nuclear tensions here has to evolve from within the region. Any other attempt, which does not take into account the regional dynamics of the nuclear problem, such as Delhi's nuclear ambitions, its missile and rocket booster program, and its impact on smaller countries' view of their security, is destined to failure. The Clinton Administration promises an evenhanded approach to the problem. Now is the time to establish that evenhandedness, in policy rather than in declaratory statements.

Qureshi Discusses Pressler Amendment, Nuclear Program

BK2409024293 Islamabad Radio Pakistan Network in Urdu 0200 GMT 24 Sep 93

[Text] Caretaker Prime Minister Moeen Qureshi has said he thinks that there is a growing feeling in the United States that the Pressler Amendment will not achieve its goal. In an interview with a panel of journalists in Islamabad yesterday, he expressed the hope that this amendment will be abrogated soon. The prime minister made it clear that Pakistan is not manufacturing nuclear weapons.

Qureshi Stresses Nuclear Program 'Capped'

BK2409085793 Islamabad THE MUSLIM in English
24 Sep 93 pp 1, 10

[By Mohammad Saleh Zaafir]

[Excerpts] Islamabad, Sept 23—Pakistan has stopped and capped its nuclear program after reaching a point. Disclosing this, caretaker Prime Minister Moeen Qureshi has assured that "we are not making an actual nuclear device."

In an hour-long interview with a panel of three senior journalists at the Prime Minister House on Thursday, the Prime Minister expressed hope that the Pressler Amendment was bound to to in months to come. [sentence as received] Col. Ikramullah Mir, Press Secretary to the Premier, was also present.

[Word indistinct] upon the country's nuclear program and the notorious Presser Amemdment, the caretaker Prime Minister said that "I think that there is a growing recognition on the part of the United States of the fact that the Pressler Amendment has not been achieving its objectives." They thought that this would force Pakistan to roll back its nuclear program but in fact it bad made it more difficult for Pakistan to consider such action, he said.

The Prime Minister said that the amendment had hardened the position of Pakistan because Pakistan was very weak in conventional military terms compared to India. It has become necessary for Pakistan to have an effective deterrent nuclear capability. He said that the amendment, by stopping all military supply to Pakistan, made

as more weak and vulnerable which in turn made us more dependent on foreign powers. "It had opposite effects", said Mr. Qureshi.

He said that New Delhi had developed an indigenous ballistic missiles program and we had no such domestic program.

"I am confident that in a matter of months the US will realise that it made a mistake in passing the Pressler Amendment," he added.

To a query Mr. Qureshi said that he had a lot of friends in the United States in positions of authority, and on the basis of his conversations with them he was quite confident that public opinion was in favor of discarding the Amendment.

Commenting on the situation in Kashmir, his counterpart to China and Iran, Mr. Moeen Qureshi said that Pakistan could not have discussions with India and Iran that would not include the US. He said that Pakistan had been instrumental in the improvement of relations between India and China and Iran and India.

He said that Pakistan endorses the statement of the UN Secretary General offering mediation in the Kashmir issue. "Really, I would welcome assistance in this regard from any quarter." But Mr. Qureshi said that India should stop its suppression of the Kashmiris in order to improve the situation and that Pakistan could not remain indifferent to what was happening in Indian occupied Kashmir.

Construction of second nuclear plant started 93H Project

[Editorial] Construction of second nuclear Plant.]

[Text] The construction of the country's second nuclear plant at a place called Chashma constitutes an important step toward the use of modern technology to obtain electricity cheaply and rapidly for reaching beneficial results. The prime minister has been saying for a long time that our country has the country's fast-growing needs for electricity and that follow the example of other countries and use modern technology to produce electricity relatively cheaply. This is because we do not have large reserves of coal, oil, gas, coal and other traditional means of production of electricity. Our water resources are scarce and seasonal in which we face a shortage of electricity during the dry months of the year. This fact creates great hardship not only for home consumers but also for the industrial, commercial, agricultural, and development sectors. We are trying to move ahead with great speed and efficiency in this direction. We are working on a large scale; however, the situation in our country is in such a critical state that we are unable to move even to keep the existing installed capacity of electrical units in operation. The gap between the demand and the supply of electricity is growing day by day. A number of

important national projects to obtain electricity from sea water fell victim to dirty politics which leaves us with the sole option of using nuclear technology to solve our problems. But our opponents have raised such a hue and cry on the international level that many countries are reluctant to cooperate with us in this sector even though [we have] expressed willingness to adhere to all the specified conditions. The People's Republic of China is the only friendly country which, as it has always done, is cooperating with us openly in this sector also. The Chashma nuclear plant is being constructed with China's cooperation. We pray that the project will be completed soon; however, many similar nuclear plants should be constructed in the future either by ourselves or with international help. This 300-megawatt plant is important as an example of new technology, but it will not prove sufficient for our needs.

Qureshi Says Pakistan To Continue Nuclear Program

OW2609045993 Beijing XINHUA 0415 GMT 26 Sep 93

[Text] Islamabad, September 26 (XINHUA)—Pakistan has denied any change in its nuclear stand and said it will not roll back [its] nuclear program unilaterally as long as India retains nuclear weapon capability.

The denial came after the local press reported that Prime Minister Moeen Qureshi said Pakistan would renounce nuclear program in a recent interview. [sentence as received]

A number of statements have appeared in the press regarding Pakistan's nuclear program which totally misinterpreted and distorted the prime minister's remarks in this respect, said a statement of prime minister's house which was published here today. [sentence as received]

The prime minister, in the interview, has reaffirmed Pakistan's existing and long standing policy on the nuclear issue and there is no change in this regard in Pakistan's stand, he stated.

Pakistan's nuclear program is well known. Pakistan has acquired a nuclear weapons capability and is making nuclear weapons, it said.

Pakistan will not foreclose the nuclear option as long as India, which has exploded a nuclear device in 1974, retains its nuclear weapons capability, the statement added.

Under no circumstances will Pakistan forego its capability unilaterally, nor shall Pakistan roll back its nuclear program, it said.

RUSSIA

Arrest in Illegal Uranium Sale Reported

93WP0244A Moscow KOMMERSANT-DAILY
in Russian 28 Aug 93 p 21

[Article by Mikhail Fedotov: "Trader in Radioactive Metals Arrested. Attempt to Sell Innards of an Atom Bomb in Moscow"]

[Text] As KOMMERSANT-DAILY learned yesterday, last Tuesday evening workers of one of the divisions of the Administration for Combating Economic Crimes (UEP) of the GUVF [Main Internal Affairs Administration] of Moscow arrested the director of the TOO [Limited Liability Partnership] Kenform from St. Petersburg (his name is not being divulged in the interests of the investigation) on Kurchatov Square during an attempt to sell a container of radioactive metals.

In a personal search of the person arrested a container was discovered which had a radiation background of one milliroentgen per hour (the usual city background is 0.2-0.3 milliroentgens per hour). After the container was discovered GUVF experts found particles of the radioactive metals Uranium-235 and Uranium-238 weighing a total of 4.5 kg. The radioactive radiation of the metal particles was 1.619 milliroentgens per hour.

Highly enriched Uranium-235 is the prepared raw material for nuclear reactors or the atom bomb (a bomb with a nuclear explosion from Uranium-235 was dropped on Hiroshima). This raw material is used in nuclear energy engineering and also to obtain plutonium for weapons (uranium-235 has a high content of Uranium-235) to create a nuclear explosive device. Experts assert that it is undoubtedly impossible to create a bomb under amateur conditions and, incidentally, this is fairly expensive raw material. According to KOMMERSANT-DAILY's information, the price of Uranium-235 varies depending on the degree of enrichment from \$50 to \$1,500 per gram.

According to the statement of the individual arrested, he had acquired the container of radioactive metals some time ago on the street. Militia workers doubted this story but refused to share their thoughts with the press. Charges were filed under Article 223, Point 2—"Illegal acquisition and possession of radioactive materials" (up to five years). If it is proved that he participated in the sale, the individual arrested could be held liable under Article 223, Point 3—"Theft of radioactive materials"

Sverdlovsk Anthrax Outbreak in 1979 Probed
PAI 1109015193 Moscow Russian Television Network
in Russian 16 Sep 93 (MT 16 Sep 93)

[From a "Special" and Anthrax" documentary: Video comment by ITAR-TASS correspondent A. Pashkov, identified by caption, on the outbreak of anthrax in

Chkalovskiy Rayon of Sverdlovsk in April 1979; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Excerpts] [061440] [passage omitted—introduction by program presenter, various interviews, some incoherent, mainly with relatives of those who died, statements by Academician P.N. Burgasov denying that the source of infection was the No. 19 Military Facility, the Microbiological Center of the Ministry Defense. He recalls his visit to the United States (video shows cuttings from English-language papers), and says that his American colleagues agreed with his conclusion that suspect meat was the real cause of the anthrax epidemic; this is contradicted by a veterinary laboratory official stating that no evidence to this effect was discovered despite extensive checks] [064648]

[064649] [Pashkov over video of entrance gate] Built back in 1947 on the outskirts, the No. 19 Military Facility was by now in the middle of a densely populated industrial district. In fact anthrax vaccine was being produced in the vicinity of residential areas and operational enterprises. Incidentally, this also applies to other centers where secret work with biological agents is being conducted [vedutsya zakrytyye raboty], Kirov and Zagorsk, for example, with the exception of Vozrozhdeniye Island in the Aral Sea, where the relevant preparations were tested.

No camera team was ever able to visit these facilities. In any case, our first attempt to gain permission to visit from the General Staff was unsuccessful. [video shows gate, green car being admitted, view of housing in surrounding area, soldier in woods barring further progress, a train being admitted through a gate]

[064748] [video switches to office with drawing boards and interview with A.A. Volkov]

[A.A. Volkov, identified by caption] ...between 1967 and 1979, August 1979.

[Pashkov] In what capacity?

[Volkov] I worked as senior technician on the shift, and subsequently as senior technician/engineer. But all this was covered by the title "serviceman of the Soviet Army." Scientists at the research institute [video again shows building behind a wall, security fence, train trundling through woods] were working on purely technological topics, while we were already developing equipment to their specifications. I am not sure whether it is permitted to say this, but everything was connected with anthrax cultures. That is to say all the scientific topics dealt with anthrax, and the equipment was designed to insert anthrax spores into munitions. I myself am not familiar with the biological aspects. My job was concerned with the equipment. I knew about density, specific weight... I was familiar with these sort of details. And I knew how to handle these things, what precautions had to be taken. We worked in gas masks and full chemical protection rubber suits.

We inside the military facility knew nothing about anything. We were told that it was indeed anthrax, but that it came from the market, that someone had sold suspect meat, and that we had to exercise caution, refrain from buying meat... and so on and so forth.

I understand now that this was a fabrication. Later I had a neighbor, an officer, a lieutenant, we were acquainted, we used to meet. Once, over a glass of vodka he told me that it happened to him. Kholayavka, this was his surname, I cannot recall his first name. Incidentally, he is dead now, he was killed. He told me that it happened to him. He, that is to say his group, was carrying out tests during the night, when a discharge occurred. A discharge occurred, the filters were faulty, a dust cloud escaped into the atmosphere. It appears that the wind was blowing toward the ceramics plant and the whole zone was contaminated [video shows ceramics plant] [065030]

[065031 thru 065106—passage omitted; Academician Burgasov denying again that the infection was airborne]

[065107 thru 065137—passage omitted; medical worker showing brain of an anthrax victim]

[065138] [Candidate of Medical Sciences L.M. Grinberg, pathological anatomy expert, identified by caption, to camera] Our material documents 42 cases. There was a total of 64 fatalities. However, at our center at the No. 40 Hospital we studied 42 cases of fatal anthrax infection. The pathoanatomical material at our disposal testifies convincingly that in all the cases which we have studied the infection was inhaled or ingested from the air [ingalyatsionny ili aerogenyy put zarazheniya]. What points to this? The fact that intratracheal lymph nodes and the mediastinum were affected in all those who died. This graphically indicates that the infection was ingested via the airways. I must mention that we reported our findings to the Sverdlovsk Pathological Anatomy Society and the Moscow Pathological Anatomy Society. This material is currently to be found in the shape of a long article at the editorial office of the "Arkhiv Patologii" journal. In general, during these reports, all our opponents agreed that our version was trustworthy, specifically the fact that in all the cases which had been studied the infection had entered the organism of the victims via the airways. [065312]

[065313] [Pashkov over video of military facility, Pashkov seen entering military facility, video shows exterior, interior, initially over music]

[065337] And so finally, for the first time in the history of the existence of the secret laboratories, a camera team enters the premises where, unknown to the world, research was conducted. We have negotiated the first checkpoint [video shows Pashkov being escorted across military facility yard by uniformed officer, partly over music]

[065406] This is the residential zone of the military facility. There are stores, kindergartens, a cultural center.

Even a stadium. The second checkpoint marks the entrance to the industrial zone. Even fewer people are allowed to enter here.

[065429] [video shows another gate] And this is the third zone where the administration and the most secret laboratories are located. General (?Khorechko), chief of the center, denies that bacteriological weapons were produced here in the past. However, the camera team was not admitted everywhere.

[065443] [video switches to uniformed man behind a desk, presumably Khorechko] [uniformed man to camera] The country's potential has been destroyed, the army has been brought to its knees and broken up. Where are we heading? [unintelligible remarks in background] No I am not hampering anyone. We are not hampering anyone! We have invited him, we have allowed him to enter, and what is more, with a camera!

If we do not attend to questions of antibacteriological protection, whether we like it or not, we place ourselves in the position of a defenseless man. And if someone were to use bacteriological weapons during acts of sabotage or combat operations, we would lose a colossal number of people.

[065524] [Pashkov over video of exterior, interior of large building] This is the building which housed the plant where the vaccines were produced and the substances against which they were to offer protection. In 1985 the order arrived from Moscow to shut down production. The plant was broken up, unique equipment was shipped out. It is difficult to say now whether it was this plant or the military facility's laboratories which caused the 1979 tragedy. But it probably was no accident when at Yeltsin's instigation—at that time he was still first secretary of the party obkom—the plant was closed down. And in 1992 Yeltsin, now president, issued a decree banning development of bacteriological weapons. The laboratories continue to operate. How can metal corrosion be averted with the help of bacteria? How can the scourge of maternity hospitals—staphylococcus—be wiped out? They were eager to tell us about this work. But it is difficult to disprove the theory of the discharge of contaminated air into the atmosphere with the help of a cigarette lighter and a cursory examination of a laboratory filter. [video shows Pashkov using his lighter to check a vent] [video shows military facility interior] [065626]

[065627] [passage omitted; more interviews, including with retired General A.Ya. Mironyuk, citing further evidence that infection was airborne; more denials from Burgasov; another interview with a distraught relative; Pashkov concludes that KGB still holds many secrets, many witnesses prefer to remain silent, silence can engender new evil] [070700]

Stepashin, Britain's Rifkind Discuss Nuclear Weapons

LD2009231593 Moscow ITAR-TASS World Service
in Russian 1559 GMT 20 Sep 93

[By ITAR-TASS correspondent Roman Zadunayskiy]

[Text] Moscow, 20 Sep (ITAR-TASS)—Great Britain firmly believes that Ukraine should strictly observe the international agreements on the nuclear weapons stationed on its territory, said Malcolm Rifkind, British secretary of state for defense, at a meeting with Sergey Stepashin, chairman of the parliamentary Committee for Defense and Security, in the House of Soviets today.

The British secretary for defense showed understanding for the Russian leadership's position which has made the pullout of Russian troops from Latvia and Estonia conditional on the situation with human rights in these countries.

At Malcolm Rifkind's request, Sergey Stepashin told members of the British military delegation about the political situation in Russia. Specifically, he clarified certain details of confrontation between the branches of authority.

The meeting, which was also attended by Col.-Gen. Valeriy Mironov, Russian deputy defense minister, touched on issues of Russia's new geostrategic situation. Speaking about relations between the former USSR countries and NATO, Malcolm Rifkind noted that "it is difficult for him to imagine Russia not taking part in the North Atlantic alliance's affairs."

After the meeting ended, S. Stepashin told journalists that in order to clarify approaches to the "Ukrainian" nuclear weapons Malcolm Rifkind planned to visit Kiev after completing his visit to Moscow. Also, he said that the Russian Supreme Soviet's Committee for Defense and Security is now preparing a draft law "On peace-making forces" which would soon be submitted to the Russian parliament for examination.

Atomic Energy Ministry Says 'Situation is Under Control'

LD2209151893 Moscow ITAR-TASS World Service
in Russian 1415 GMT 22 Sep 93

[by ITAR-TASS correspondents Anna Bakina and Veronika Romanenkova]

[Text] Moscow, 22 Sep—The situation is under control at Russia's atomic facilities, including the defense enterprises. Any accidents are impossible. The political confrontation between the branches of authority will in no way influence the industry's normal operation, ITAR-TASS correspondents were assured at the Directorate of Public Relations and Information of the Russian Atomic Energy Ministry.

Boris Saltykov, minister of science and technical policy, is not concerned about the working pace of its industry, either. In his conversation with an ITAR-TASS correspondent

today, however, he said that in a number of the country's regions, scientists will perhaps support the opposition. In these conditions, Boris Saltykov believes, Boris Yeltsin "should rally the 'power' ministers around himself," especially as "the state figures described as Aleksandr Rutskoy's supporters do not have sufficient authority."

Chernobyl-Class Reactors To Continue Operation

BR2309152693 Rotterdam NRC HANDELSBLAD
in Dutch 23 Sep 93 p 19

[Article by Theo Westerwoudt: "EC Worried About Dangerous CIS Nuclear Power Stations"]

[Text] Brussels, 22 Sep—Russia wants to expand its nuclear energy facilities considerably and turn them into an exporting industry. The Russian Government is refusing to consider the closure of the Chernobyl class of nuclear power stations, which is the most dangerous and oldest.

That emerged yesterday during a visit by the Russian Minister for Atomic Energy Viktor Mikhaylov to the Energy Committee of the European Parliament in Brussels. Euro MP's [Members of the European Parliament] from all the political groups were extremely critical of Mikhaylov's speech, because the European Commission is about to give loans to Russia of ECU2 billion (4.28 billion guilders). That money is to be used to improve the safety of Russian nuclear reactors. One of the essential components of the safety program wanted by the EC is the earliest possible closure of dangerous Russian nuclear reactors.

Dutch Euro MP Jessica Larive (liberal group) intends to question the Belgian president of the Council of Ministers on the issue this week. This could endanger the actual granting of EC loans.

Larive and some colleagues became alarmed yesterday evening in a discussion with Russian Deputy Minister for Atomic Energy Sidorenko. He told them that Russia was not intending to follow advice from Western experts, who have said that the most dangerous reactors should be closed. Last year the Paris-based International Energy Agency and the World Bank presented a report to the seven richest western industrialized countries (the G-7). The report said that some of the oldest Russian reactors should be shut down because their safety could not be adequately guaranteed. However, Sidorenko said that the Western experts did not understand the technology of the Chernobyl-type reactors (graphite-moderated water-cooled reactors which work by the pressure tube principle). According to Sidorenko, work is continuing on an improvement program for these power stations and they would certainly continue to operate until the year 2003.

Minister Mikhaylov complained in his speech that Western aid for improving Russian nuclear energy facilities was progressing slowly. "Delegations have been traveling back and forth for two years now, but so far nothing concrete has been achieved," Mikhaylov said. He explained that the point of departure of his ministry's

policy plan is a doubling of the Russian federation's present nuclear energy capacity from 20 to 40 gigawatts by the year 2020. Recently a new reactor was taken into service. Last year \$150 million was spent on improving the nine existing nuclear power stations in Russia. "That should have been \$250 million," the minister said.

The nuclear energy sector itself is to earn the funds that it needs. Russia wants to drastically expand its electricity production, uranium exports, and uranium enrichment activities in order to earn more foreign currency. Mikhaylov announced that negotiations are taking place with major uranium users in France, Germany, and Britain. The possibility of Russia processing French nuclear waste is also being negotiated. Mikhaylov complained that the West is limiting Russian uranium exports by imposing quotas. "The American quota alone made us lose \$400 million last year," he said.

Increase in Foreign Nuclear Subs Reported in Russian Waters

LD2509081393 Moscow Mayak Radio Network in Russian 1830 GMT 24 Sep 93

[Text] According to the press service of the Russian Naval Fleet, foreign nuclear submarines have recently stepped up their activities in waters around Russia. In the Barents Sea alone there have been eight cases of foreign nuclear submarines being discovered this year. The command of Russia's naval forces has already suggested to the Defense Ministries of the main maritime states that measures to enhance confidence and the security of navigation in adjacent seas should be examined. Given the situation that is currently taking shape, it is once again suggesting returning to a discussion of this problem.

Weapons Grade Plutonium Energy Program Proposed

MK2509133793 Moscow SEGODNYA in Russian No. 57, 25 Sep 93 (signed to press 24 Sep) p 3

[Unattributed report: "A Concept for the Conversion of Weapons Grade Plutonium"]

[Text] Viktor Murogov, head of the Physical Engineering Institute (a structure under the jurisdiction of the Russian Federation Ministry of Nuclear Energy), has reported that the Russian Federation Nuclear Energy Ministry has approved a concept for converting weapons grade plutonium, large stockpiles of which have accumulated in Russia because it is impossible to reutilize them or to preserve them for a long time with subsequent use as a nuclear fuel. Within the framework of the proposed conversion program, Viktor Murogov said that the "Mayak" production association has launched the construction of three fast neutron reactors. One reactor will use approximately 2.5 tonnes of plutonium per year. Utilized plutonium stocks are expected to be used as a source of energy for 30 years.

State Body To Have Oversight of Navy Nuclear Equipment

PM2709094593 Moscow KRASNAYA ZVEZDA in Russian 21 Sep 93 p 1

[Vasiliy Fatigarov report under "From Our Newsdesk" rubric: "Statute on Federal Inspectorate for Nuclear and Radiation Safety Amended"]

[Text] In accordance with the Russian Federation president's directive of 16 September 1993, the main principles for ensuring state oversight of the nuclear and radiation safety of nuclear weapons and nuclear energy units on Navy ships have been added to the Statute on the Russian Federal Inspectorate for Nuclear and Radiation Safety (Gosatomnadzor) which the president approved last year.

A system defining procedures for state oversight and licensing in relation to these facilities will be elaborated and approved in three months.

Kozyrev, Koptev on Rocket Export Policy

93WP0259A Moscow NOVOYE VREMYA in Russian No 38, Sep 93 (signed to press 14 Sep 93) pp 20-21

[Article by Andrey Kozyrev, minister of foreign affairs of Russia, and Yuriy Koptev, general director of the Russian Space Agency: "Armaments and Disarmament: Russia in the World Rocket Market: It Is Most Advantageous To Play According to the Rules; Why Our Country Should Not Sell Rocket Production Technology"]

[Text] Russian-American agreements in the sphere of rocket and rocket technology exports have aroused a storm of indignation—"we are surrendering to the dictate of the United States," "we are being transformed into a raw materials appendage of the West," and "we are waiving our own rights."

These assessments spring not from a desire to get to the heart of the matter, but from interests in the domestic political struggle.

Let us put political emotions aside and try to gain an understanding of what our agreements with America mean from the standpoint of Russia's state interests.

Missiles Threaten Us, Not the West

What did the Russian Government agree to with the U.S. Government?

To comply with the system of control over rocket technology and restrict proliferation in the world of means for the delivery of weapons of mass destruction.

There are forces on the perimeter of the CIS borders, in the Near East, and in South Asia that are trying to acquire combat missiles (or the technology for their production), which can carry nuclear or chemical warheads.

The proliferation of weapons of mass destruction and the means for their delivery threatens Russia to a greater degree than it does the West. It is not they who should motivate us, but we who should motivate them to be restrained and circumspect in trade transactions.

Russia is faced with a simple choice: Either comply with the internationally adopted system of nonproliferation of rockets, and thereby be concerned about our own security, or, contemplating small momentary profits, continue to export rocket systems.

In 1987 a group of industrially developed countries elaborated and adopted a complex of measures that blocked the proliferation of rocket technology that could be used for military purposes.

It was immediately proposed that the Soviet Union join this agreement. Readiness to do so was talked about time and again in Moscow. Moreover, it was leaders of the USSR who signed joint documents with the United States that approved the purposes and principles of the system of nonproliferation of rocket technology.

But Moscow's export practice was determined by previous ideological and geopolitical interests and commercial gains.

SCUD Becomes Popular

The transfer by the Soviet Union of SCUD missiles, well-known in the Persian Gulf War, to Arab "allies" in the 1970's also served as a reason for the proliferation of combat missiles in the "third world." After mastering the technology of production of combat missiles of various classes, these states began to trade in missiles themselves.

From the very beginning, independent Russia declared its intention to observe the nonproliferation system. This was also talked about in President Yeltsin's statement of 29 January 1992 concerning policy in the sphere of weapons restrictions and reductions.

A year later the president signed a directive "On Introduction of Control over Export from the Russian Federation of Equipment, Materials, and Technology Employed in the Creation of Rocket Weapons." A list of commodities that can be exported only under license was approved. The Russian Government adopted a special statute on the system of control over the export of rockets and rocket technology, which was drawn up on the basis of the norms and rules of the international nonproliferation system.

In other words, Russia made its choice. This choice, like the treaty on the nonproliferation of nuclear weapons that was concluded at one time, and other agreements on nuclear, chemical, and biological disarmament, first and foremost responds to Russia's interests.

Earnings Can Be Made on Satellites

Does this choice damage Russia's economy?

The rocket and space industry of the Soviet Union is now divided among several countries. Russia intends to continue cooperation with these countries, while striving for unity of export policy in this sphere.

Agreements have been concluded within the scope of the CIS on joint use of the space infrastructure. On the instructions of the presidents of Russia and Kazakhstan, a package of agreements is being prepared, first and foremost concerning the Baykonur space vehicle launching site.

The documents signed with the United States concern not only coordination of export policy but also cooperation in the sphere of developing outer space on a commercial basis.

Our space industry acquires an opportunity to earn money on launches of Western satellites—this could bring us about \$700 million.

Russia will be able to participate in the creation of the Freedom international orbital station. Joint work on the Russian orbital station Mir [Peace] is envisaged. This promises the Russian space sector contracts for approximately another \$400 million in the next four years.

But Russia's adherence to the norm of nonproliferation of rocket technology is a mandatory condition. Otherwise, internal legislation will go into effect that provides for sanctions against violators. And this is a proper practice. Russia should also talk tougher with violators of rocket export norms..

Our Business Cannot Afford Outer Space

Why is entry into the world outer space service market so important to Russian industry?

The space industry is a subject of special pride to Russia, a symbol of our scientific and technical achievements. It is supplied with expensive equipment that is valued at almost 40 billion rubles [R].

Under conditions of a sharp demilitarization of the economy, the enormous potential of the rocket-space complex, which is oriented principally on military objectives, remains unclaimed to a significant degree. Because of the strained condition of the budget, the financing of the state space program is under the threat of disruption. The resources that are allocated from the state budget are swiftly losing value because of inflation.

The development of engines, carrier-rocket control systems, and space vehicles is on the brink of failure. Enterprises can shut down—the largest manufacturers of space equipment, such as the Progress plant and the Voronezh mechanical plant. The Mir manned program and defense projects are called in question.

The average wage in space industry enterprises in the first half year did not exceed R20,000 per month. Last

year, almost 80,000 persons left the industry, and 34 percent of the doctors and candidates of science were lost in two years.

The space industry is appealing to the country's business world, but our entrepreneurs are not rushing to invest money in the industry, which inherently has a long period (five-seven years) of manufacturing and testing of technical complexes. Even such potentially profitable spheres as communications and telecommunications systems do not attract them. Russian business is not ready to assume long-term major investments and risk.

The state remains the main support for the development of the space industry and mastery of outer space, which to one degree or another is also characteristic of other countries in space. All American companies that are involved in NASA programs receive resources mainly from the budget. According to calculations by Western specialists, the participation of the private sector in financing space programs as a rule constitutes 10-12 percent.

Entry into the world market of outer space services will make it possible to partially finance national programs.

Russian space-launch vehicles have an important advantage—high reliability and a large lift capability.

Naturally, a sharp competitive drive cannot be avoided. It is naive to assume that Russia will be presented contracts only as a sign of gratitude for its entry into the market. It will be necessary to fight for contracts.

What is the alternative?

Orient ourselves not on the main markets, but on the requirements of "third world" adventurers. It stands to reason that relations with the developing countries are necessary. But not to the detriment of the strategic interests of Russia. We must not permit Russia to be deprived of an opportunity to preserve and realize its technical potential profitably.

India Must Understand Us

Thus, who will be concerned about Russia's remaining one of the most powerful space states? Those who are for sensible control over rocket exports, or those who are torpedoing this policy for the benefit of some Vostok?

Our obligations in the sphere of control over exports require an analysis, and if need be, an adjustment on a universal basis of all existing contracts in the sphere of the export of rocketry, equipment, and technology. This analysis is not directed against some state. It simply is necessary to exclude any transactions that contradict both international norms and Russian export control rules.

This, naturally, also relates to the contract between the USSR Glavkosmos [Main Administration for the Development and Use of Space Technology for the National Economy and Scientific Research] and the Indian Space Research Organization which was concluded in 1991. Moscow obligated itself at that time to provide India

technology for the production of cryogenic rocket engines on an Indian industrial basis.

Russia plans to continue cooperation with India on peaceful space programs. However, it is prepared to transfer to it only finished cryogenic engines that are needed for the launching of peaceful Indian satellites.

We expect that India will understand Moscow's unbiased position on the problem of nonproliferation of dangerous rocket technology and that the amendment to the contract does not denote an adjustment to relations with India in general.

KAZAKHSTAN

Talks Held With U.S. Delegation at Defense Ministry

*LD2409090993 Moscow ITAR-TASS in English
0721 GMT 24 Sep 93*

[By ITAR-TASS correspondent Gennadiy Kulagin]

[Text] Almaty September 24 TASS—Problems pertaining to the practical implementation of the treaty to reduce and restrict strategic offensive weapons were discussed here today during talks with a U.S. delegation, dealing with problems of dismantling nuclear weapons in the former republics of the USSR.

The Kazakh delegation was led by Defense Minister Sagadat Nurmagambetov, and the American—by Ambassador James Goodby.

Both sides noted with satisfaction the identity of their views on the need to consistently fulfill the commitments assumed under the treaty and the Lisbon Protocol to it.

Touching on problems linked with the dismantling of strategic offensive weapons, the head of the American delegation expressed readiness to render Kazakhstan technical assistance and financial aid, which would not affect the interests of its sovereignty and security, as well as the interests of third states.

International Conference Held on Nuclear Energy

*LD2009154993 Moscow ITAR-TASS in English
1450 GMT 20 Sep 93*

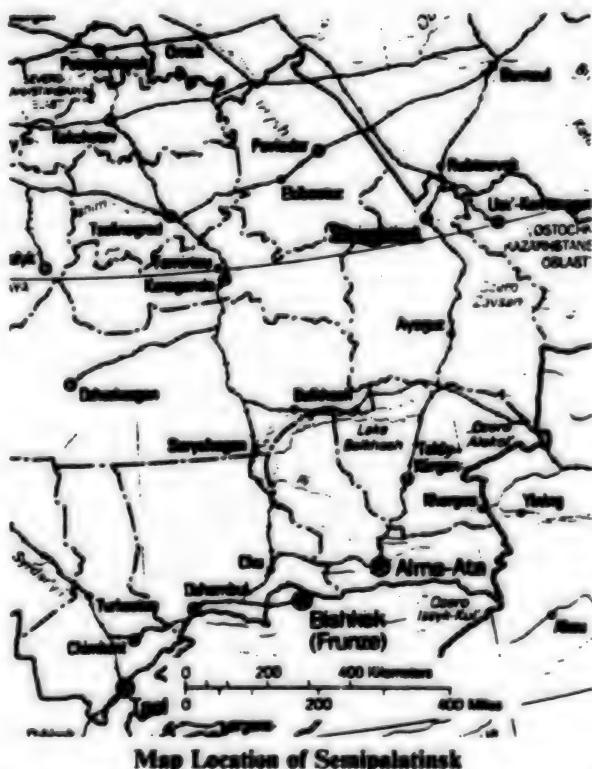
[By KAZTAG correspondent Konstantin Borodinov for TASS]

[Text] Kurchatov, Kazakhstan, September 20 TASS—An international conference on problems of nuclear energy in Kazakhstan took place here, not far from the Semipalatinsk nuclear test-range. Scientists and public representatives from Kazakhstan, Russia, Ukraine, the United States, Canada, and Japan took part in the conference.

Nuclear power engineering has good perspectives in Kazakhstan. It would be possible to build a low-power

atomic energy station on fast neutrons in the western part of the republic and also a medium-power atomic heat and power plant on the site of the former test-range.

Kazakhstan, which still maintains scientific and economic relations with Russia, has rich sources of raw materials, nuclear fuel production enterprises and unique research institutes, according to the participants in the conference.



Aid For States Affected By Nuclear Tests Sought

LD2909091193 Moscow ITAR-TASS in English
0721 GMT 29 Sep 93

[By KAZTAG correspondent Lyudmila Bondartsova for TASS]

[Text] Almaty September 29 TASS—The Almaty committee of the Global Anti-Nuclear Alliance sent a memorandum addressed to the U.N. secretary-general as well as to the heads of nuclear pool states, the Chinese Government and people.

It expresses ideas, principles, and priorities of ecological security of the post-totalitarian countries. The document calls on international organizations to step up nuclear disarmament and do away with the aftermath of nuclear tests.

The memorandum's authors are the first in the world who try to call the attention of international organizations to the problem of social and legal protection of countries and population who suffered from nuclear explosions.

They suggest that an international union to coordinate the solution of this problem should be established under the U.N. aegis. They also propose that a fund to rehabilitate nuclear-stricken populations and regions be set up. According to the authors, the nuclear pool states should be the main co-founders of the fund, since they are the main guilty parties for the ecological disaster.

The committee drafted the principles and priorities of a mechanism for cooperation between non-government organizations and authorities. The committee deplores that ideas which are quite feasible now, have not been even put on the U.N. agenda for the 21st century.

Social Ecology Council Chairman Vasiliy Vasilenko who is also learned secretary of the problems committee on radiation, ecology and public health of the Nevada-Semipalatinsk Antinuclear Movement, stressed that it is quite logical that the memorandum was drafted in Kazakhstan.

"Our republic has turned [out] to be the dirtiest link in the nuclear technology of the former Soviet Union and suffered most of all from nuclear detonations," the scholar noted.

KYRGYZSTAN

Military Calls for National Nuclear-Free Zone

LD2909182993 Moscow ITAR-TASS in English
1715 GMT 29 Sep 93

[By ITAR-TASS correspondent Boris Mainayev]

[Text] Bishkek September 29 TASS—The Kyrgyz State Committee for Defense has come out for proclaiming the whole territory of Kyrgyzstan to be a nuclear-free zone.

The development of the Kyrgyz military concept was completed on Wednesday. The concept has a purely defensive character and envisages close cooperation with armies of all CIS countries on the basis of the inviolability of the existing borders.

In a few days, documents to this effect will be submitted to the national parliament for approval.

LITHUANIA

Vienna, Paris Conventions on Nuclear Responsibility Joined

WS2209102393 Vilnius TIESA in Lithuanian 8 Sep 93 No. 174 p 4

[Unattributed report under the "In the Government" rubric: "Joining Conventions Continued"]

[Text] Lithuania has joined the 21 September 1988 Vienna Protocol concerning the 1963 Vienna Convention on civil responsibility for nuclear damage, and the 1960 Paris Convention on the responsibility before a third party in the sphere of nuclear energy application.

The Foreign Ministry has been authorized to submit a respective document of agreement.

UKRAINE

Society Advocates Country's Nuclear Status

AU2009131493 Kiev UKRAYINSKA HAZETA in Ukrainian No. 15 (30), 16 Sep-6 Oct 93 p 8

[Statement by the Ukrainian People's Embassy on the Issue of Ukraine's Nuclear Weapons: Nuclear-Free Ukraine—in a Nuclear-Free World—words between slantlines published in boldface]

[Text] The All-Ukrainian Fund for Promoting International Contacts and the Ukrainian People's Embassy demand that the President, Supreme Council, and the Cabinet of Ministers of the Ukrainian state proceed in the question of Ukraine's nuclear policy from the principle "There is no policy that is correct or incorrect, but there is a policy that promotes Ukraine's interests." This does not mean that leaders of our state must denounce their own statements on the advisability of Ukraine's nuclear disarmament.

The concept of a nuclear-free Ukraine and of a nuclear-free world is essentially humane and it undoubtedly belongs to values common to all mankind. Ukraine must, however, agree to the total elimination of its nuclear arsenal only provided that all nuclear powers of the world also totally eliminate their nuclear weapons.

"A Nuclear-Free Ukraine in a Nuclear-Free World." The Ukrainian People's Embassy recommends that all Ukrainian politicians recognize this principle as a fundamental one in Ukraine's external political and military doctrine. The proclamation of this principle will provide Ukraine with a significant moral advantage, which will enable it to get support from the world community. Such a principle may only be proclaimed by a peace-loving state that wants a stable and nuclear-free world for mankind.

Ukraine has more than sufficient reasons to amend its policy. This is dictated, first and foremost, by such new

realities as official territorial claims upon Ukraine on the part of Russia. Ignoring the condemnation by the UN Security Council, the Russian parliament has not given up its decision to sever Sevastopol from Ukraine. Who can offer a guarantee to our motherland that these territorial claims will be limited to that issue alone? The Ukrainian People's Embassy is convinced that the Ukrainian nuclear shield is the only guarantor of Ukraine's sovereignty and the only deterrent against the encroachments on the part of the neighboring and other nuclear powers.

The young Ukrainian state also needs the nuclear status, which came about historically, in order to defend its geopolitical interests, which will considerably expand as a result of our need to look for new energy suppliers. It has long been known that not everybody likes those who are strong, but everybody has to reckon with them. There will be no need to reckon with a disarmed and economically vulnerable Ukraine. That is what NATO and Russia are after. They are united in their plans to destroy Ukraine's nuclear shield with the help of a stick and a carrot.

Questions naturally arise.

Why are the present Ukrainian leaders not alarmed by the fact that the United States and Russia, which are trying in particular to deprive Ukraine of its actual nuclear status, continue modernizing their own nuclear weapons and declare their geopolitical interests everywhere in the world?

Why didn't Ukraine take part in the negotiations between the United States and Russia, which undertook, on their own, to decide the fate of nuclear weapons on Ukrainian territory?

Why does Great Britain, even though it is protected by the nuclear shield of the United States, categorically refuse to get rid of its nuclear weapons, calling them an important factor of deterrence?

Who can guarantee that the nuclear powers will not start, in the very near future, to defend their geopolitical interests on Ukrainian territory by exerting ostentatious pressure and threatening with weapons, as was, for example, the case in Iraq, Tajikistan, and so on? It is known that, in such cases, it does not take long to find an excuse. We remember the ludicrous arguments advanced by Russian parliamentarians about forced Ukrainization of Sevastopol where there are still no Ukrainian schools.

Who will forbid the Russian parliament to declare the forced Ukrainization of Kiev, for example, and the need to defend its Russian-speaking population? There is sufficient excuse for the Russian deputies—more and more Ukrainian-language schools, newspapers, and signboards are emerging in the capital of Ukraine.

Proceeding from the geopolitical interests of the present and future generations of our people, the Ukrainian People's Embassy, at the same time, believes that it is not politicians, but only the people themselves who must ultimately decide whether a Ukrainian nuclear shield should exist. In this connection, the Ukrainian People's Embassy appeals to the Supreme Council and to the Ukrainian president with the initiative to offer the following question for a nationwide referendum:

"Do you find it expedient to maintain in Ukraine nuclear weapons in quantities sufficient for its defense until all nuclear powers of the world totally eliminate them?" Yes No."

If the people answer in the affirmative, the Ukrainian People's Embassy suggests five urgent steps for the Ukrainian state:

1. To adopt amendments for Ukraine's Constitution guaranteeing that Ukraine will never be first to use nuclear weapons against nuclear powers and will not, under any circumstances, use them against nuclear-free countries.
2. To declare Ukraine as a nuclear power and assume all obligations associated with such a status.
3. To become involved, as an equal participant, in the negotiations on reducing nuclear weapons in the whole world.
4. To come out with the initiative for total and simultaneous elimination of nuclear weapons throughout the world.
5. To appeal to all parliaments and nations of the world with a substantiation of Ukraine's peaceful and just policy in the question of nuclear weapons.

This statement is open for signing by political parties, public organizations, state and public figures, and collectives of Ukrainian citizens.

Kuchma Speaks on Future Government, Massandra Agreements

WS2309124993 Kiev Ukrayinske Radio First Program
Network in Ukrainian 1900 GMT 22 Sep 93

[Report on news conference by former Ukrainian Prime Minister Leonid Kuchma in Kiev on 22 September by Vitaliy Naumenko—passages within quotation marks recorded]

[Text] I would like to draw your attention to certain important, in my opinion, moments from former Prime Minister Kuchma's news conference today.

When asked about the future government composition the former prime minister said:

[Kuchma] "I would not begin to change the government today, because it is hopeless to do it with a legislature that will have to resign. The sooner the Supreme Council

resigns, the sooner a new government can be created. There are, as I see it, two solutions to the current situation. The first would be for the president to assume full power. I have always been a supporter of the idea that executive power should be concentrated in one pair of hands. In case it somehow happens that the legislature does not give the president such powers, there is a second way. We have Supreme Council Speaker Ivan Stepanovich Plyushch on our political scene. Maybe in this situation, the legislature will vote for him. There is no other way, because even if the president finds the best people, the legislature will denounce any program proposed by the new government. Anybody recommended by the president will be run down by the legislature. [passage indistinct]"

Kuchma spoke decisively in favor of Ukraine's participation in the [Russia-Ukraine-Belarus] economic union; however, he pointed out that Ukraine should have its own currency.

[Kuchma] "It is very important that we not lose the Russian market, and the document that could be adopted by the three states says that prices for energy sources are the same for each of the three countries. This means that we can concentrate ourselves on this market."

Russian media have recently disseminated a report that Russia has annulled the Massandra agreements on the transfer of Ukrainian nuclear weapons. Leonid Kuchma was asked whether the Ukrainian Government had received any official statement on this issue, and about his opinion.

[Kuchma] "I believe that the documents on strategic nuclear weapons that we signed in Yalta represent a success for our country. Somehow there is nobody who wants to tell the simple truth that the nuclear warheads located on Ukrainian territory pose a threat to Ukraine. Moreover, it happens in a situation when Russia has practically annulled our agreement to provide warranty service on the missiles and has refused to sign an agreement on providing warranty service to the nuclear warheads themselves. Additionally, when the overheating occurred at the Nikolayev Oblast Pervomaysk division on 23-27 August, and on 11 September, I received a letter saying: Dear Prime Minister, help us, tell Russia to send specialists. You wrote a lot about our silence. I actually asked the Russian leadership to send specialists and engineers, and they came. Another very important fact is that Russia has recognized Ukraine's rights to those warheads. You know that until then, according to the START I treaty, we had not been the owners of any nuclear warheads. This means a lot to us. This means three to six free deliveries of nuclear fuel for our nuclear power plants, and we agreed that prices for nuclear charges will be fixed at world prices. This represents 30 percent of the country's total energy output. During this entire period of time, I refer of course to our oil and gas shortages, it means a lot to Ukraine.

We also agreed, on the government level, that Russia recognizes our rights to possess tactical nuclear weapons."

Changes in Text of Nuclear Arms Protocol Viewed

*PM2309114593 Moscow ROSSIYSKIYE VESTI
in Russian 22 Sep 93 p 1*

[Pavel Shinkarenko report: "The Truth About Nuclear Weapons. Russia Denounced Protocol on the Withdrawal of All Nuclear Weapons From Ukraine"]

[Text] ROSSIYSKIYE VESTI today publishes three documents signed by the prime ministers of Russia and Ukraine during their summit meeting in Crimea 3 September. They are:

- the Agreement Between the Russian Federation Government and the Ukrainian Government on the Recycling of Nuclear Weapons,
- the Basic Principles for Recycling the Nuclear Weapons of the Strategic Nuclear Forces Stationed in Ukraine, and
- the Agreement Between the Russian Federation and Ukraine on the Procedure for Exercising Supervision Under Guarantees and Patents of the Operation of the Strategic Missile Complexes of the Strategic Forces Stationed on Their Territories.

But it appears that there was also a fourth:

- the Protocol on the Withdrawal of All Nuclear Weapons of the Strategic Nuclear Forces Stationed in Ukraine to the Russian Federation.

It was around this that a scandal erupted after a photocopy of it—featuring obvious crude emendations distorting the sense of the accords between Boris Yeltsin and Leonid Kravchuk—was carried in KIEVSKIYE VEDOMOSTI 9 September.

What was the gist of the actual summit agreements? In reply to this question the Russian Federation Ministry of Foreign Affairs states that in the course of a meeting in Massandra 3 September between the Russian and Ukrainian presidents agreement was reached that all nuclear weapons of the Strategic Nuclear Forces stationed in Ukraine would be withdrawn to Russia not later than within 24 months of the date of Ukraine's ratification of the START-I treaty. This, inter alia, is apparent from the published photocopy of the protocol, the title of which features the word "all." The presidents decided that the document was of a confidential nature and would be signed by the heads of government, as indeed happened.

However, the Ukrainian president's adviser A.D. Buteyko, taking advantage of the fact that the documents were at his disposal after they were signed by Viktor Chernomyrdin and Leonid Kuchma, made two handwritten emendations to the text, entirely changing the contents of the accord. In effect the documents came to mean that Ukraine—that is to say, in the given case, a

certain part of the state apparatus—will seek, despite the obligations it has assumed, to keep some of its nuclear weapons.

Despite high-level protest from Russians, Ukraine's representatives refused to restore the original text. In connection with these actions of the Ukrainian side, which are, to put it mildly, unusual in diplomatic practice, the Russian Federation Ministry of Foreign Affairs statement runs, the Russian side officially annulled this protocol; Ukraine's representatives were immediately informed of this.

Thus the protocol on the withdrawal of all nuclear weapons from Ukraine does not exist as a document, the Russian Federation Ministry of Foreign Affairs states. However, this, of course, does not affect the gist of the accords reached between Russia and Ukraine at the level of heads of state and government.

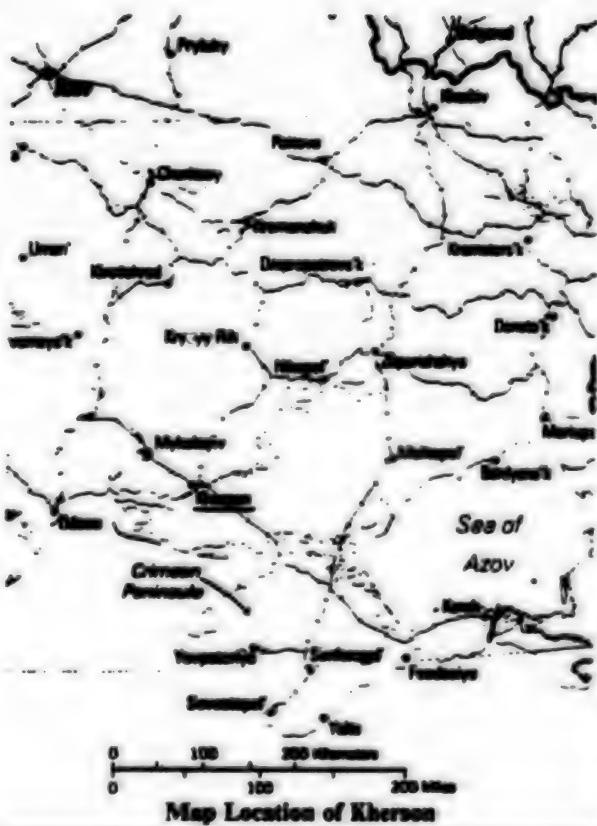
An unseemly saga. Moreover, it happened at a time when Ukraine is resolving the question of confidence in the president and parliament and on the eve of the latest session of the Council of CIS Heads of State and Government, which is to examine the prospects for—or even to actually establish—an Economic Union, and at which an important step is to be made along the road of deepening the integration of our countries. The publication of falsified materials, the initiators of this action calculate, is bound to provoke in the population distrust of the actions of the leaders of Ukraine and Russia, and, consequently, undermine confidence in the rapprochement of our peoples.

Today readers can study the true texts of the other Crimean accords on nuclear weapons and strategic missile complexes. We hope that they will be able to discover the truth and thereby facilitate the strengthening of trust between Russia and Ukraine, and in the final analysis, between all countries of the Commonwealth.

Militia Seize Container With Radioactive Waste at Kherson

WS2809102693 Kiev Ukrayinske Radio First Program Network in Ukrainian 0900 GMT 28 Sep 93

[Text] Militia agents discovered a container with radioactive waste during an operation at the Kherson port. The container had been delivered by a resident of Vinnytsya. Friends of his in Kherson had helped him find a buyer and estimated the container's value at \$600,000. The investigation will have to uncover who was the owner of the 38-kg container with radioactive cesium and where it was destined. If let loose, experts claim, it would cost at least \$200 million to decontaminate the container.



Security Forces Find Stolen Guided Missiles

LD2509105593 Kiev UNIAR in Ukrainian 0730 GMT
25 Sep 93

[Text] Lugansk, 24 Sep—The combined tactical headquarters of the Ukrainian Security Service, military intelligence, and the military prosecutor's office have carried out an operation to find and seize antitank guided missiles, other weapons, and ammunition which had been stolen from a subunit of the Lugansk Garrison. The stolen weapons were found at the bottom of the Luhansk River. The criminals were detained and a criminal suit has been filed.

Nuclear Arms Deemed 'Burden,' Threat to People, Environment

WS3009112193 Kiev UNIAN OHLYADY, KOMENTARI, PROHNOZY in Ukrainian
20-26 Sep 93 (Tentative)

[Report by Volodymyr Boreyko: "Ecological Aspects of Nuclear Arms in Ukraine"; from Volume No. 17]

[Text] Ukrainian nuclear arms have recently enjoyed increased attention. There have been voices in favor of

their complete elimination, while others insist that Ukraine might need "the military atom" in the future. However, our state's nuclear missile potential is a threat not only to our possible enemies, but also to the Ukrainian people and environment. This threat is caused not only by unreliable military equipment and the absence of environmental controls, but also by disorder in the Army, the irresponsibility of military personnel, and common thievery. Nuclear facilities have been built in densely populated areas in an atmosphere of complete secrecy and with mass violations of sanitary and ecological norms.

In the fall of 1991, a mistake by servicing personnel in the Svitlovodskyy rayon of Kirovohrad Oblast led to the inadvertent launching of a combat surface-to-air missile and several people died in the explosion. Subterranean water has been contaminated with fuel for several square kilometers around the strategic nuclear bomber base at Kiev Oblast Uzyn. A 20-cm-thick layer of aviation fuel has accumulated in the wells of surrounding villages and catches fire whenever a match is thrown into a well.

There are plans to store 8,000 freight-car loads of explosives and three kinds of missiles at the unfinished facility, No. 431, in the Shpolyansky rayon of Cherkasy Oblast, although the high-pressure gas pipeline "Soyuz" has been built only 500 meters from that facility and there are three air shafts directly over the complex. What if a plane crashes? According to expert calculations, the resulting explosion would leave a 30-km-wide crater.

Different "mail boxes" [Soviet term for secret military facilities] are causing severe damage to human health and the environment: in Dnipropetrovsk Oblast Zhovti Vody, where uranium ore is enriched for later use in nuclear warheads; in neighboring Pavlohrad, where SS-22 missiles are produced; and in Dnipropetrovsk itself, where SS-20 missiles are produced at the Pivdennyy machine-building plant.

Military experts have recently inspected the security of nuclear systems at the missile division in Mykolayiv Oblast Pervomaysk. They revealed that 16 rocket launchers for SS-24 missiles are in combat status even though the date for their scheduled maintenance had passed eight to ten months earlier. The number of combat blocks [as published] stored in one place is three to five times the norm. This has led to an increased exposure level which is about 1000 milliroentgen per hour and is hazardous to personnel servicing the equipment. On 14 September, the personnel reported increased storage temperatures.

The shipment and storage of missile fuel is also very dangerous to the environment.

Possessing nuclear arms is not an accomplishment, but a heavy burden for the nation. No nuclear bomb can make Ukraine rich and independent.

International Monitors to Supervise Weapons Destruction

LD2909094493 Kiev UNIAR in Ukrainian
2140 GMT 28 Sep 93

[“The Defense Ministry press service reports”—UNIAR headline]

[Text] Kiev, 28 Sep—According to the Ukrainian Defense Ministry press service, an inspection group from Germany's Ministry of Defense has arrived in Ukraine at the invitation of the Ministry of Defense, which in accordance with the Conventional Arms Reduction Treaty, will familiarize itself with the course of the

treaty's implementation by the Ukrainian side. This is already the 23d inspection which is being carried out in our state this year.

The group is headed by Paul Khuze [name as received] and will be in Zhitomir and Ovruch. It is planned to destroy 35 combat armored vehicles at the tank repair plant in Zhitomir. Of these, 10 will be converted into general purpose tractors; the rest will be turned into scrap metal.

In Ovruch, out of 25 airplanes, one will become a ground training base [as received] and the others will be destroyed.

REGIONAL AFFAIRS

EC Agrees to Nuclear Nonproliferation in Austria

AU2909195793 Vienna ORF Television Network
in German 1830 GMT 29 Sep 93

[Report by Guenter Schmidt and Eva Pfisterer]

[Text]

[Schmidt] In today's round of negotiations [in Brussels], the ambassadors [of the European Community and Austria] agreed on the text of a joint statement, which will be part of the accession treaty. This statement says, among other things, that the member states themselves will decide whether or not they will produce nuclear energy. The same applies to the final storage of nuclear waste.

Austria will not be alone with its policy. Five of the 12 current members do not have nuclear power plants, either—namely Ireland, Denmark, Luxembourg, Portugal, and Greece.

The negotiators say that it was a good meeting. Austria has pushed through its environmental standards in other fields as well. Therefore, the more sensitive stage of negotiations has begun in a good atmosphere. The 12 have agreed, for instance, that the regulations for labeling and dosage of detergents remain as they are in Austria. In a field where the EC regulations are stricter than the Austrian ones, namely regarding the constant checking of surface waters suitable for swimming, Austria has been granted the desired transition period.

The most important thing, however, is that the nuclear nonproliferation law may remain in effect, as State Secretary Ederer also confirmed in Vienna:

[Ederer] The joint statement that was adopted today gives Austria the guarantee that we neither have to operate nuclear power plants in the future nor do we have to import nuclear waste.

[Pfisterer] What about the transport of nuclear waste through Austria? Do we have to permit that?

[Ederer] We can prohibit the import and the transit of nuclear waste through Austria at any time, and this will not change as soon as we become an EC member.

AUSTRIA

Austrian Government Funds Nuclear Spallation Project

BR2109151893 Munich SUEDDEUTSCHE ZEITUNG
in German 2 Sep 93 pp 33

[Text] The government in Vienna recently decided to support the planned spallation source AUSTRON as the major Austrian large-scale research project. A preliminary study is scheduled for completion by the end of October, and parallel attempts will be made to attract funding from

other European countries. According to current plans, AUSTRON could be built in the year 2002.

A spallation source represents an alternative to conventional neutron sources, in other words research reactors. Neutrons, the uncharged components of atomic nuclei, are primarily used in research into the structure of materials. The difference between a reactor and a spallation source is that the former supplies a continuous neutron flux, whereas the latter works on a pulsed basis. It is an accelerator in which heavy elements are bombarded with protons, thus generating neutrons and other fission products, the advantage being that it does not involve handling enriched uranium, although it does produce radioactive waste.

It had previously been assumed that a spallation source was considerably more expensive than a reactor, but the cost of building AUSTRON is estimated at the equivalent of 430 German marks [DM]. This would make the facility cheaper than the research reactor planned for Garching near Munich, which will cost at least DM500 million. AUSTRON is to be pulsed at the high rate of 10 hertz, which will eliminate several of the drawbacks due to the flux being lower than that generated by reactors. It is planned to create a center for research into new forms of radiation therapy around the spallation source.

FRANCE

Government Supports U.S. Proposal of Fissile Materials Ban

AU2809154293 Paris AFP in English 1525 GMT 28 Sep 93

[Text] Paris, Sept 28 (AFP)—France Tuesday expressed qualified support for U.S. President Bill Clinton's proposals for an international treaty to ban production of fissile materials used to make nuclear weapons and a temporary ban on nuclear arms tests.

France backed the "objective of nonproliferation which it has itself placed in the forefront" and was "therefore, in principle, favorable" to the proposals. But as regards the outlawing of fissile materials production, "we must study all the implications for our own dissuasion," said Deputy Foreign Ministry Spokesman Catherine Colonna, referring to France's own nuclear defense capability.

She stressed that the French government believed it was "essential that this convention be conceived from the outset as a universal instrument."

Clinton made the proposals Monday during his first speech to the United Nations General Assembly in New York.

France was "favorable" to a nuclear test ban treaty "on condition it is universal and verifiable," the spokesman added.

The U.S. President suggested that all nations temporarily ban the testing of nuclear arms while negotiations were underway on a permanent ban.

Commenting on Clinton's call for all nations to ratify the convention on chemical weapons. Colonna said France shared "the goal" of fighting proliferation of such arms and wanted "the convention on chemical arms, signed January 13 in Paris, to go into force as soon as possible."

On biological weapons, the spokesman said France was "for strengthening this convention," had been calling for the addition of a "verification protocol for some time," and was pleased that "other countries share this approach."

Nuclear Test Ban Would No Harm to National Security

AU0110212093 Paris AFP in English 2107 GMT 1 Oct 93

[Text] Paris, Oct 1 (AFP)--A short-term nuclear test ban will not harm French nuclear deterrent or national security. Defense Minister Francois Leotard said in an interview with a center-right political magazine published Friday.

"France is taking no risk over its security by a delay (in nuclear testing) of a few years," Leotard told the PERSPECTIVES AND REALITES journal.

An expert report on the effect of a test moratorium on the French nuclear deterrent is due on the minister's desk within days.

"However, it is very important for us to acquire as quickly as possible an ability to simulate tests which would enable us later—but only later—to forego tests," Leotard added.

France is currently testing such a system but it is not expected to be perfected for some time.

Paris ordered a year-long ban on nuclear tests in its Pacific sites in April 1992 following the announcement of a similar ban by the United States.

The moratorium was extended in July at the same time as the expert report on the effects of such a ban was commissioned.

Delays to M.5 Strategic Missile Program Feared

PM2909163593 Paris LE MONDE in French
29 Sep 93 p 14

[Unattributed report: "Aerospatiale Fears a Slowing Down of M.5 Strategic Missile Project"]

[Text] The Aerospatiale group fears that the Defense Ministry may slow down its program for the M.5 nuclear missile launched in 1992 by Pierre Joxe and designed to arm the Triomphant-class strategic submarines. According to Louis Gallois, the group's chairman and managing director, the credits for study and research allocated to the project in 1994 will be reduced by 80 million francs [FR] (about 30 percent) compared with what was envisaged and they will be spread over 15 months rather than 12.

In Cannes, where he was visiting Aerospatiale's new satellite premises, Defense Minister Francois Leotard hinted Monday 27 September that the credits allocated for the M.5 could be reduced. But he refused to specify how big this reduction of the budget would be, merely indicating that the M.5 missile program will not be broken off in 1994.

At the end of last week Mr. Gallois explained to the trade unions that if he had known of these measures earlier he would have stepped up the provisions of the company's new social plan, which stipulates the loss of 2,250 jobs, 250 in the space and defense department.

The M.5 program is for an "all-purpose" sea-launched land attack missile which will replace the current M.45 missiles on submarines after the year 2005 and whose range is 8,000 km. Originally the project was to produce three batches of 16 M.5 missiles each—it is proposed to commission four Triomphant class submarines but only three will be kept permanently at sea—at an overall cost of FR38.5 billion at 1992 prices.

It is in the plants of Saint-Medard-en-Jalles (Gironde) and Les Mureaux (Yvelines) that the decisions regarding slowing down the M.5 program will first make themselves felt. The jobs of over 100 employees (about half the personnel in the research bureau) are threatened. Already Aerospatiale's abandonment, following the 1991 government decision, of the programs for the S.45 strategic missiles (to replace the Albiion Plateau S.50 missiles) and the Hades tactical missiles (to succeed the Pluton missiles) has had the effect of reducing from 2,000 to 1,300 the number of employees in the workshops of Saint Medard-en-Jalles alone.

The fate of this M.5 missile is currently the subject of consideration insofar as the end of the cold war in Europe makes it of limited interest with preference going to a French nuclear arsenal which at the start of the next century would be reduced to the M.45 ship-launched missiles (which could be further perfected) and a new category of long-range air to surface missiles on board Rafale aircraft.

Government Welcomes Clinton's Call to Ban Weapons Proliferation

BR2909122193 Paris LE QUOTIDIEN in French
29 Sep 93 p 14

[Unattributed article: "Nuclear Power: France on the Same Wavelength as Washington"]

[Text] France said yesterday that it welcomed President Bill Clinton's proposals for the fight against the proliferation of weapons of mass destruction, while reserving for itself the right to examine the implications, for its own interests, of a ban on fissile materials. The American President had indicated on Monday before the UN General Assembly that his country would propose a treaty that would forever ban the production of fissile materials for military purposes and would pronounce

itself in favor of a moratorium on nuclear testing. On this last point, France also was inclined "favorably toward a treaty" completely banning nuclear tests, "on the condition that it be universal and verifiable."

GERMANY

Volkswagen Foundation Funds Nuclear R&D

*BR3009114593 Bonn WISSENSCHAFT
WIRTSCHAFT POLITIK in German 1 Sep 93 p 4*

[Text] The Volkswagen Foundation has introduced a new area of sponsorship: "Intra-and Intermolecular Electron Transfer."

It is aimed at the study of those chemical processes for which an electron transfer is essential. It concerns mainly chemistry, but also touches on other disciplines, particularly physics and biology.

Omnipresent but Not Always Apparent

Electron transfer is the simplest and at the same time virtually omnipresent elementary reaction in chemistry. It determines for example the chemical transformation of metals, initiates bond formation in natural and synthetic hydrocarbons, and is also the central step in vegetable biosynthesis. It also plays a role in many fields of technology, such as fuel cells or switching processes.

Ever Quicker Processes Observed

The speeds of electron transfers depend on the nature of the reaction partners, environmental influences, and the effort required to modify the molecular structures involved. These processes run extremely quickly. But the development of methods of measurement in the last few years permits faster and faster processes to be observed and thus also permits reactions to be examined that have not previously been considered from the angle of possible electron transfer processes.

Interdisciplinarity

The sponsorship will bring together in particular chemical, biological, and physical research. Support will be given to projects (including exchanges of personnel between teams) and conferences.

WEST EUROPE

NETHERLANDS

University Obtains 'World's Most Powerful' NMR Spectrometer

*BR2809123193 Zoetermeer SCIENCE POLICY
in English Sep 93 p 23*

[Unattributed article: "Nuclear Spin Resonance: Nuclear Magnetic Resonance Centre Comes to the Netherlands"]

[Text] The Netherlands is to acquire the world's most powerful nuclear magnetic resonance (NMR) spectrometer, with a frequency of 750 MHz. Researchers will use the instrument to measure the structure of carbohydrates, DNA fragments, and proteins. The spectrometer will be located in the new Nuclear Magnetic Resonance Centre on Utrecht University's Uithof campus. The Centre is expected to be operational by the end of the year, and will also open its doors to researchers from outside the Netherlands.

The European Community is shelling out ECU 1 million (2.2 million guilders) for the NMR Centre. The Netherlands Ministry of Education and Science is handing over 7 million guilders. Moves to establish the Centre first came from Utrecht University's Bijvoet Centre, Nijmegen University's Nuclear Spin Resonance (NSR) Centre, and the Dutch Chemical Research Foundation (SON).

Driven by powerful magnets, NMR technology is used to analyse substances and unravel unknown compounds. The new NMR spectrometer can be used on larger, less concentrated molecules than instruments already in use. Its field strength is 17.6 tesla, or 300,000 times the strength of the Earth's magnetic field. This field strength makes it possible to obtain information on larger molecules such as proteins, carbohydrates, and fragments of DNA. With the NMR spectrometer, researchers can examine these molecules under near-natural conditions.

DNA, carbohydrates, and proteins all play a major role in molecular recognition. Interactions between them usually cause a chain reaction, culminating in a physiological effect such as the contraction of a muscle or the digestion of food. Knowledge of the structure of the molecules involved is not only important for our understanding of molecular recognition; it is indispensable for the scientific development of new medicines.

As well as analysing the structure of substances, the NMR spectrometer can analyse bodily fluids such as bile—a capability that opens up new horizons in diagnostics.

To manage the NMR Centre, its three prime movers have created the Bijvoet-NSR Institute. Researchers from all over Europe may submit research proposals to the Institute if they wish to use its equipment. An international committee, with representatives from the Institute and from outside the Netherlands, will monitor access to the NMR spectrometer. Research will be supervised by Prof. J.F. G. Vliegenthart and Dr. R. Kaptein (from the Bijvoet Centre) and Prof. C.W. Hilbers (from the NSR Centre).

Nuclear Cooperation With China Praised

*93WP0227A Lahore THE PAKISTAN TIMES
in English 3 Aug 93 p 6*

[Editorial: "Chashma Power Plant"]

[Text] The start of work on a 300-MW nuclear power plant at Chashma signifies another landmark in Pak-China collaboration for scientific and economic advancement. It also highlights the remarkable measure of cooperation between the two nations in the field of nuclear power generation for peaceful purposes. Being the second of its type in the country after KANUPP, the Chashma nuclear power plant is a pressurized power reactor and on completion will be connected to the 220 KV national grid. At the same time, it is an improved version of a similar Chinese plant which is in operation near Shanghai. As the Chairman, Pakistan Atomic Energy Commission, has pointed out, the Chashma project, which is to operate under IAEA safeguards, marks a breakthrough in the long-drawn struggle of our country in the coveted domain of nuclear power generation. "We are engaged in building specialised institutes, workshops and projects devoted to various aspects of nuclear technology," he said.

It is obvious that the Chashma facility will go a long way in mitigating the shortfall in Pakistan's energy requirements. We are suffering acutely from the paucity of oil and coal reserves. Per capita fossil fuel reserves in the country are estimated to be only 6.4 tons oil equivalent (TOE) as compared to the world average of 151 TOE, and developing countries figure of 75 TOE. Worse still, the hydro potential in accessible areas of Pakistan is also limited. The grim reality is that our energy requirements are multiplying fast with the passage of time. A recent World Bank study on energy crisis in Asia revealed that Pakistan is facing up to 1200 MW power shortfall daily. Our country, therefore, needs to take rapid strides towards self-sufficiency in energy production. In this context, we may undergo the compulsion of setting up more nuclear power plants. Electricity generation has also to be stepped up to maintain the pace of economic and technological development. The Chashma plant stands as a glittering example of South-South cooperation in the field of nuclear energy and deserves to be emulated by other developing states so as to reduce, and finally abandon, their chronic dependence on the West for economic and scientific progress.

Significance of Japan's Nonproliferation Stand Noted

*93WP0236A Madras THE HINDU in English
10 Jul 93 p 8*

[Editorial] The international debate on the Nuclear Nonproliferation Treaty is entering an extremely sensitive phase. At least one major power, Japan, is understood to have indicated a subtle shift in its stand on the terms of extending the validity of the Treaty. Now, Japan has often been cited by the United States as an

exemplary votary of the principle of arresting the nuclear armament trends across the world. It is in this context that Tokyo's reported reservations over the question whether the NPT should be extended indefinitely beyond 1995 assume enormous significance. A parallel development in this multi-channel international discourse, which the U.S. cannot ignore, is the categorical recommendation by an Eminent Persons Group that it is not in India's national interest to consider signing the highly discriminatory NPT even in this post-cold war environment.

Since the end of the cold war, the U.S. has mounted a carefully orchestrated campaign of calling on India, an acknowledged threshold power in the domain of nuclear armaments, to sign the NPT and give up its nuclear option forever. In fact, no deep knowledge of international relations is needed to recognize that Washington has proclaimed itself as the arbiter of the world's destiny on all matters relating to the global production of weapons of mass destruction. Following the collapse of the Soviet Union, the U.S. now finds itself in the unique position of being the only superpower which could seek to refashion world politics. It is in these circumstances that Washington is ostensibly trying to limit the number of countries possessing nuclear weapons to the known five permanent members of the United Nations Security Council. Washington also tends to gloss over its real attitude towards its ally, Israel's nuclear weapons capabilities. But the U.S.'s overall effort is as transparent as India's well known objections are.

The Eminent Persons Group, which India set up to study the issue in all its complex ramifications, is of the view that today's much-hailed improvement in the global security environment may have eased the tensions in East-West relations but not those in inter-State relations in Asia. India's concerns relating to both Pakistan and China seem to have been taken into consideration by the Group which has also drawn attention to the impact on India of the lapse of the old Indo-Soviet Treaty. While the Group may not have broken new ground in meeting Washington's diplomatic offensive against Delhi on this issue, the U.S. too is clearly at a loss to invent a truly rational case for universalizing the application of the NPT and for extending it indefinitely.

North Korea's latest strategy of blowing hot and cold over its recent decision to dissociate itself from the NPT appears to have impelled Japan to express doubts over the wisdom of setting no time limit for the validity beyond 1995. Apparently Tokyo has suddenly decided to free itself of Washington's historical stranglehold on its security perceptions and to awaken to China's status as a classical nuclear power in its neighborhood. Japan's new thinking on this issue is perhaps not adequately reflected in the political declaration which the G-7 industrialized democracies have now adopted at their latest summit in Tokyo. Nevertheless, the new signals from Tokyo might induce Germany, another have-not by a historical accident, to revise its views on the NPT. With a more balanced approach alternative

ideas such as parity between the existing nuclear powers and the threshold powers as well as the collective international control over the existing national stockpiles of nuclear weapons could then be considered.

Kremlin Silence on Scuds for Syria Deplored

PM2109141993 Moscow *IZVESTIYA* in Russian
18 Sep 93 First Edition p 3

[Vladimir Nadein article: "Moscow Accused of Delivering Missiles From North Korea to Syria at the Very Moment When the Near East Is Moving Toward Peace"]

[Text] Washington—The delivery of spare parts for intermediate-range Scud missiles from North Korea to Syria by Russian transport aircraft is a topic which the United States is discussing actively, singling out two aspects.

First: Russia's violation of the spirit, if not the essence, of the memorandum of mutual understanding on questions of exporting rocket technology, recently signed by Viktor Chernomyrdin, attests to an unreliable partnership. Second: Extensive cooperation in space with Russia, which does not know how to keep its word, could prove very dangerous in the long term. Circles close to the U.S. military-industrial complex have initiated an anti-Russian campaign. They want to make Congress intervene in the treaty signed recently in Washington by Chernomyrdin and Vice President Gore.

Cooperation With Russia: Advantageous But Dangerous

In an article published in the weekly DEFENSE NEWS Frank Gaffney, director of the research Center for Security Policy, accuses the Clinton administration of concluding a loss-making deal with the Russian space industry. (The Russian opposition also accuses the Yeltsin government of approximately the same thing for the same reason.)

Gaffney makes no attempts to refute U.S. Vice President Gore's main thesis that cooperation with Russia is very advantageous to the United States. He emphasizes "the dangerous dependence of the United States on Russian carrier rockets for space launches," as well as the fact that the agreement "injects badly needed money and technologies into the former Soviet military-industrial complex."

"Carried away by his assumption that the end of the 'Cold War' has irrevocably transformed the former Soviet Union from the worst enemy into a reliable partner, Clinton does not see the risk associated with Gore's ambitious attempt to link important U.S. space activity with Moscow," the center's director writes. "As a result, the United States might find itself face to face with the worst of worlds: excessive dependence on a launch system belonging to a Russia whose foreign and defensive policy has once again come into conflict with our own."

The appeal which concludes the article—an appeal to Congress, which has met after the long August vacation, to "renounce the bad deal," as the Gore-Chernomyrdin agreement is called—is repeated, this time with great pressure, in an article carried Wednesday in a more influential publication: THE WALL STREET JOURNAL.

How the Air Carrier Will Respond

Entitled "How Russia is Continuing To Incite Terror in the Near East," this article has come from the pen of John Khenakh [surname as transliterated], a former high-ranking U.S. State Department official and now deputy director of the Middle East Policy Institute in Washington.

Without citing his source of information, the author reports that on 8 August a Russian transport aircraft delivered to Damascus, the Syrian capital, "a deadly load: components for Scud-C ballistic missiles capable of carrying chemical weapons and reaching targets deep inside Israel."

The author links the transport operation by Russian carriers (8 August) with the signing of the Chernomyrdin-Gore treaty in Washington (2 September) and the peace agreement between Israel and the PLO (13 September). In the first case he accuses Russia of violating the document which has just been signed, and in the second of intending to undermine peace in the Near East—right now, moreover, when "all eyes are on Syria."

If you consider the fact that at the beginning of August unresolved questions connected with the Indian rocket deal still existed between Moscow and Washington and if you recall that only one week before the meeting in Washington neither Premier Rabin nor Chairman 'Arafat had even thought of such an outcome, then the farfetched nature of these accusations becomes obvious.

What is more, it is so striking that it becomes important information in itself.

As far as I have been able to gather from several informal conversations, the powerful military-industrial lobby is preparing an attack in the U.S. Congress on the intergovernmental agreement on space cooperation. The purpose is to wreck ratification or, at the very least, to postpone it.

Clinton's Difficulties Have To Be Understood

The high degree of decentralization of power in Russia and the still higher level of anarchy make it a highly complex matter for the central government to supervise compliance with international agreements. But this does not absolve Moscow of responsibility for the actions of Russian enterprises and officials.

In the past the winged words of Romanov, former first secretary of Leningrad Oblast Party Committee, went all over America. In conversation with a group of U.S. senators who were discussing problems of ratifying the

SALT II Treaty. Romanov said: "Never mind, the President will speak and you will vote like dears."

The senators were staggered. But how was Romanov, who had been raised on experience of the splendidly trained USSR Supreme Soviet, to know that the legislators sometimes vote not only against the President but even to spite him?

There is more than enough such experience in Russia today, and so the Kremlin ought to be understanding of the Clinton administration's difficulties, which are natural for any democracy.

Opponents of the two countries' cooperation in space are basically not all that wrong. For all its mutually advantageous nature, the concluded deal is founded not only on commerce. Its advantages to Russia are also accounted for by political reasons, by the U.S. side's purposeful desire not to abuse Moscow's difficult economic position.

Although such an approach, as the U.S. leaders have emphasized, fully accords with the U.S. national interests in the long term, it is in need of strong protection. The inertia of the "Cold War" is still great and, multiplied by the interests of powerful corporations, it could affect the positions of the White House.

Under these conditions even a single flight by a commercial aircraft to Damascus can create difficulties for the supporters of Russian-U.S. space cooperation who are concentrated today in the administration. By avoiding a public discussion of that episode and ducking a tough qualification of it, Moscow provokes the questions formulated in THE WALL STREET JOURNAL.

Referring to the fact that the United States made contact with the authorities in Moscow "at least 48 hours before delivery," the newspaper asks: "Did Mr. Yeltsin try to stop delivery? Maybe he was too late? Or was he rebuffed? If this is so, what has he done to punish the persons responsible for this?"

These alarming questions would not have been asked if the Kremlin had issued an exhaustive explanation in good time.

Russian Official Admits Reported Missile Sales to Serbs

OW0110131993 Tokyo KYODO in English 1242 GMT 1 Oct 93

[Text] Tokyo, Oct. 1 KYODO—A senior Russian Trade Ministry official on Friday [1 October] acknowledged reported sales of Russian missiles to Bosnian Serb forces in Bosnia-Herzegovina, but denied the Russian Government was involved.

"Although I do not know what channels such weapons manufactured by Russia or the former Soviet Union have been exported through, they have been turned over to such forces or countries," said Mikhail Sarafanov,

director of the Russian External Economic Relations Ministry's National Market Research Institute.

"However, the Russian Government itself is not involved in such sales," Sarafanov told a news conference at the Japan National Press Club.

A report by THE OBSERVER, a British newspaper, said that Russia sold surface-to-air missiles and T-55 tanks to Bosnian Serbs in January for 360 million dollars and dispatched soldiers and engineers to train Serb fighters.

Sarafanov also denied other reports that Russia tried to export missile fuel to Libya and surface-to-air missiles to Romania before their cargoes were respectively seized by Ukrainian and Moldovan customs officials.

He suggested the possibility of private manufacturers or exporters being involved in such attempts.

"Although the Russian Government agreed to international monitoring and stoppage of weapons exports to such countries, the situation in which Russian weapons have been brought to such countries has nothing to do with Russian Government decisions."

He denied allegations that a proposed lifting of curbs on militarily applicable high technology sales to Russia could jeopardize the security of the international community by bolstering the competitiveness of Russian weapons.

"Our demand to secure the lifting of Cocom (Coordinating Committee for Multilateral Export Controls) regulations resulted from our tough economic situation," Sarafanov said.

"In order to develop and manufacture high-technology products, we need to import high-tech products," he said.

At the July Tokyo summit, Russian President Boris Yeltsin called for dropping the Cocom regulations on imports into Russia of high technology.

Sarafanov called for Japan to provide its renowned technology and financial assistance to lift Russia's troubled economy.

Quoting official statistics, he said Russia exported some \$3 billion worth of weapons in 1992—about one billion dollars more than the value of interest and principals it repaid the same year to international creditors.

Cautioning actual sales may be higher than this, he said the 1992 amount is about one-third of weapons sales in 1989.

The Russian Government is considering expanding weapons exports to make up for its revenue losses that resulted from decisions to halt supplying them to Iraq, Cuba, and other countries.

"We will maintain our share in the international weapons market," he said.

Kazakhstan Offers India Aid in Nuclear Technology

Engine for Space Flight

*93WP0228A Bombay THE TIMES OF INDIA
in English 21 Jul 93 p 17*

[Text] New Delhi, Jul 20 (UNI)—Kazakhstan's Deputy Prime Minister and Minister for Science and New Technology, Mr G.A. Abilsyitov, has expressed his country's willingness to transfer technology for nuclear power engine for space flight.

At a Confederation of Indian Industry meeting here today, he said Kazakhstan had expertise in drawing and designing highly sophisticated and safe atomic power stations and radioactive material storage center, which it could pass on to other countries on transfer of technology basis.

He said the Baikonur cosmodrome was within the territorial area of Kazakhstan, but under the occupation of the military forces of the Russian federation.

They wanted to change the center's military facility into a civilian space center by converting it into a global space station company, where India could also join in by participating in its equity, he added.

Mr Abilsyitov said Kazakhstan was rich in uranium and a host of other rare earth materials and its scientists were experts in converting most of these materials into oxides essential for nuclear energy.

The Indian government and the private sector companies could avail this opportunity of acquiring the technology, or in the out-right purchase of these materials. Currently, most of these uranium and uranium based nuclear fuel material was being exported, he added.

He said the present government in Kazakhstan had also drawn up a stable and a viable economic policy towards achieving the right type of market economy in the country.

It had decided to go in for a long-term disinvestment plan of the public sector units (PSUs). The government would issue shares of these PSUs gradually and in that connection any investment from India would be welcome, he said.

Mr Abilsyitov, who heads a 13-member delegation for holding the first-ever meeting of the India-Kazakhstan joint commission, said the delegation had brought with it seven concrete projects for the setting up of pharmaceutical projects in their country.

These projects would have to be set up in the least possible time. This apart, the delegation was ready to discuss issues with India for the development of bilateral trade and economic relations.

Cosmodrome Use, Uranium Fuel

*93WP0228B Bombay THE TIMES OF INDIA
in English 26 Jul 93 p 9*

[Text] New Delhi, Jul 25. Kazakhstan has invited India to join the international company being formed to utilize the Baikanour Cosmodrome and has expressed its readiness to supply uranium fuel for nuclear power plants in this country.

The Kazakh Deputy Prime Minister and Minister for Science and New Technology, Mr G.A. Abilsyitov, who is heading a high-level delegation, told newsmen after the conclusion of the meeting of the Indo-Kazakh Joint Commission on Trade, Economic and Technology Cooperation, that the two sides had identified space and atomic energy among the priority areas for science and technology cooperation.

Mr Abilsyitov said the Kazakh proposal for the use of Baikanour base had evoked "great interest" in India and he felt that India could derive substantial benefit of it and decided to take part in the proposed international company.

Mr Abilsyitov said India could consider setting up its own rocket-launching pad in Baikanour as it would entail large cost saving because of the availability of high class ground facility at the base. India could also explore the possibility of launching its satellites from Baikanour by using launching vehicles of other countries, including the Proton or Zenith rockets.

Mr Abilsyitov said Kazakhstan had also invited other countries, including the U.S. to participate in the international company being formed to utilize the Baikanour facility. He said the proposed "Freedom-Mir" space complex, a proposed joint venture between the U.S. and Russia, would be launched from Baikanour since it had all the facility for sending cargo into the space.

Mr Abilsyitov said Kazakhstan was ready to supply fuel for Indian nuclear power plants either in the form of uranium oxide or uranium pellets. He said Kazakhstan did not have the facility for enriching uranium and this was being done in Russia.

Kazakhstan mined uranium ore and processed it to make uranium oxide, which was then enriched in Russia. The enriched uranium was further fabricated in Kazakhstan into pellets. He said for supply of uranium pellets to India, therefore, a tripartite agreement would be required.

Mr Abilsyitov said the joint commission deliberated on "numerous" issues and areas of cooperation and it was envisaged that during the current year, the two-way trade turnover would amount of \$20-25 million.

He said Kazakhstan had opened up for the Indian industry key areas of its economy such as agriculture, food processing, extraction and processing of petroleum

and construction and construction materials for investment and joint ventures. The ground had now been prepared for the professionals on the two sides to interact in this regard and firm up concrete project proposals.

Mr Abilsyitov said the two countries agreed to establish direct air link between Alma Ata and New Delhi. While a formal agreement in this regard was expected to be signed by the civil aviation ministers of the two countries in Alma Ata in the near future, it had already been agreed to begin the preparatory work for such an air link.

Mr Abilsyitov said the two sides thoroughly discussed the possibility of India providing a training facility for technical personnel from Kazakhstan and it was decided that a large number of Kazakh students would be studying in technical institutions in India.

Norway Seeks Clarification on India's Heavy-Water Use

93WP0237A Madras *THE HINDU* in English
10 Jul 93 p 6

[Text] Oslo, Jul 9—Norway has asked New Delhi to clear once and for all the matter of alleged diversion of heavy water by India on two occasions in the past, a Norwegian Foreign Ministry official has said.

Mr Torbjorn Noremdal, who is in charge of nuclear programs and policies, said his Government had raised the issue with India on several occasions, "but we never had a satisfactory explanation."

Norway has taken up the matter once again hoping it will be cleared up once and for all. "We cannot simply drop the matter because our Government is under intense political pressure to find out if our heavy water is helping nuclear weapons proliferation in Asia," he said.

When told that the Indian Government had last year denied any clandestine diversion of Norwegian heavy water. Mr Noremdal said his Government had confronted India with proofs that two shipments of heavy water totalling 27.7 tons were unloaded in Bombay. "We want to know what India did with it."

He said his government might "Forget the whole matter" if India said the heavy water was not used for any weapons program and was only used for peaceful purposes.

According to the Norwegian official, a Swiss branch of a company in former West Germany imported 15.2 tons of heavy water from Norway in 1983 ostensibly for a German reactor, but diverted the shipment to the Indian Atomic Energy Commission in Bombay.

He said investigations also showed that the same company had imported heavy water from China and then shipped it to India.

Hans Blix Gets New Term As IAEA Chief

AU2809161693 Paris AFP in English
1544 GMT 28 Sep 93

[Text] Vienna, Sept 28 (AFP)—Hans Blix of Sweden, 65, was named on Tuesday to a fourth four-term term as head of Vienna-based International Atomic Energy Agency (IAEA), an agency spokesman announced.

Blix, the only candidate, was re-elected by acclamation by the 114 members attending the IAEA general conference here, and was sworn in at once. He had been appointed last June by the Agency's board of governors as the only candidate to succeed himself.

The Swede, a former foreign minister, was first elected in 1981 as a compromise candidate. Persons close to him say he is particularly characterized by discretion, efficiency, and an ability to listen to the concerns of the various regional interests within his Agency.

Hans Blix is known as a low-key but efficient administrator.

The IAEA, during his tenure, has managed to respond to the increased demand for nuclear control and inspections, despite political problems such as the conflict with Iraq and disputes with North Korea, financial problems, and the safety problems at nuclear plants in the old Soviet Bloc.

He is a native of Uppsala, Sweden, was trained in law, and is a former Swedish foreign minister. He is fluent in French, English, and German.

He sees himself as "handicapped" by lacking the sort of technical and scientific background of his predecessor, nuclear physicist Sigvard Eklund, who holds the record as IAEA chief with five terms between 1961 and 1981.

But Blix feels his broad political and diplomatic experience has compensated, and has won his praise among IAEA regional groups for what is seen as his readiness to hear all positions.

Blix has been instrumental in changing the way the Agency conducts its inspections.

Whereas beforehand it toured only nuclear sites declared by a country, the IAEA now requests inspections based on information supplied by intelligence services or the media concerning possible clandestine nuclear sites, as has been the case with Iraq and North Korea.

His worst criticism as IAEA chief came in May 1991 over an IAEA report that concluded that the consequences of the 1986 Chernobyl nuclear disaster were "overestimated." Blix himself conceded later that he had not been critical enough in assessing the report.

He is married and the father of two sons.

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